

# NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



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### COST-BENEFIT ANALYSIS OF NAVY MEMBERS BASED ON DEPENDENT STATUS

by

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DEPENDENT STATUS**

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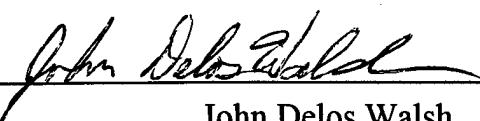
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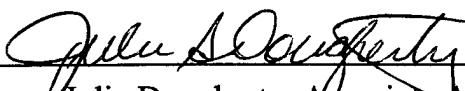
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## **ABSTRACT**

This thesis attempts to determine whether there are differences in earnings and productivity of active duty members in the Navy, based on dependent status. Using data collected from Defense Manpower Data Center (DMDC), Bureau of Naval Medicine (BUMED), Military Traffic Management Office, Personnel Family and Community Support Division and the Navy' Budgeting Office, a cost basis of individuals with and without dependents was constructed to see if there was an appreciable difference in actual costs. Several studies and surveys from a multitude of sources were then evaluated to determine if there was a noticeable difference in productivity or benefits for the Navy based on dependent status. The findings revealed that there was a difference in the cost to the Navy while in general little or no added productivity or benefit was found. It was also found that even though the difference in pay was relatively small, it had a large effect on the morale of individuals. Based on these findings, an alternative proposal for a more equitable compensation system was developed. This new system would help maintain the highest morale, simplify the procedures used in the existing system, and create future savings for the Navy while maintaining the majority of benefits received by the member. In addition, this solution would not affect retirement pay or the overall tax burden of individuals or the Navy.



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## I. INTRODUCTION

The purpose of this thesis is to determine if there is a difference in the pay and benefits received by members of the Navy, based on dependent status, at a cost to the Navy. This difference in the Navy's costs will then be compared to the difference in the Navy's benefits. This will indicate if cost differences are warranted or desired.

### A. COMPENSATION BACKGROUND

The background section introduces the various types of compensation discussed in this study. A brief overview of the original purposes and major changes of each compensation package will also be presented to show how these compensation programs have changed over time.

#### 1. Basic Allowance for Quarters (BAQ):

This section discussed the changes in the BAQ structure and includes a summary of these changes at the end of each section. BAQ is a cash substitute paid to members who do not occupy government quarters. Members are allowed to receive BAQ when government quarters are not available or completely filled at their duty station. Since allowances and requirements for receiving BAQ have significantly differed between officers and enlisted, each group will be presented separately.

##### a. *Officers*

Since the founding of the United States, Military Officers have been normally furnished living accommodations without charge. Except for a comparatively short period

of time when a so-called “salary system” was in effect, a substitute cash payment has been authorized when government quarters were not available (Department of Defense, Office of the Secretary of Defense (1991), p.69).

Initially, two different methods were used to calculate the amount to be received in lieu of quarters. The Army paid for actual housing and fuel costs incurred by the officers, while the Navy paid a flat rate equal to one-third of total pay. Dependent status was not considered. (Department of Defense, Office of the Secretary of Defense (1991), p.70)

In the mid-1800s, new regulations were adopted by the Army establishing adequacy standards for officers’ quarters by specifying the number of rooms to which officers of different grades were entitled. The number of rooms ranged from two for second lieutenants to 10 for lieutenant generals. This changed the allowance from actual costs to a calculated average per room multiplied by the number of rooms authorized. (Department of Defense, Office of the Secretary of Defense (1991), p.70)

For a short period of time, the Army and Navy Appropriations Act of 1871 removed all cash payments and only provided quarters to those living on post or base. During this period, all members were provided the option of living on base. Any member who decided to live off-base paid for such expenses out of their income. (Department of Defense, Office of the Secretary of Defense (1991), p.70)

The Act of June 1878 allowed Army Officers to receive payments of \$10/room, but it still did not recognize any difference in dependent status. The same room standards that were established in the mid-1800s were also adopted. (Department of Defense, Office of the Secretary of Defense (1991), p.70) Unlike the Army, it wasn’t until the Act of

March 3, 1899 that Navy officers' commutation for quarters was reinstated. At this time, the Navy adopted the Army's room size and rate standards. (Department of Defense, Office of the Secretary of Defense (1991), p.71)

Commutation payments for quarters, fuel, heat or light authorized by regulation or statute before 1918 depended on whether an officer, and not their dependents, did or did not occupy government quarters. The dependent status of an officer to determine of eligibility was incorporated into commutation pay as a temporary World War I measure in the Act of April 16, 1918 which allowed payments to officers in the field whose dependents were not occupying public quarters. This Act was to expire on June 30, 1922. (Department of Defense, Office of the Secretary of Defense (1991), p.71) However, the Act of June 10, 1922 also included dependent status in the number of rooms allotted to an individual. This act established a rental allowance for all services based on a national average price per room. As before, this average price was multiplied by the number of rooms authorized by the service. (Department of Defense, Office of the Secretary of Defense (1991), p.71)

Although the same idea was incorporated into a new system by the Pay Readjustment Act of 1942, the "number-of-rooms system" was changed to a fixed monthly sum based on an officer's pay period and dependent status (Department of Defense, Office of the Secretary of Defense (1991), p.71).

Finally, the Career Compensation Act of 1949 replaced the "rental allowance" with the existing "Basic Allowance for Quarters (BAQ)." The Career Compensation Act initially established BAQ rates for each officer grade at levels estimated by the Advisory Commission on Service Pay, referred to as the "Hook Commission. The

rates equaled the maximum monthly rates at which 75 percent of the civilians in comparable income groupings could reasonably expect to find adequate bachelor or family housing. This was the first time the military equated BAQ rates to comparable income groupings and housing costs. Military income varies with rank and housing costs normally vary with marital status. Thus, the officer BAQ rates recommended by the Hook Commission, and ultimately prescribed by the Career Compensation Act, were graduated by pay grade, the rates within each grade were further differentiated by dependent status. (Department of Defense, Office of the Secretary of Defense (1991), p.72) Since 1949, there has been no fundamental changes in BAQ for officers except the pay and allowance percentage increases associated with a new fiscal year. A summary of these changes are in Table 1.

<b>Summary of Navy Officer Commutation for Quarters</b>	
<b>Act</b>	<b>Policy</b>
Initial Regulations	Rate equal to one-third of pay regardless of dependent status.
Navy Appropriations Act of 1871.	Removed all payments in kind.
Act of March 3, 1899.	Adopted Army's room size and rate standards. Still independent of dependent status.
Act of April 16, 1918.	Added commutation for members whose dependents did not occupy government quarters. Act was to expire June, 1922
Act of June 10, 1922	Established rental allowance incorporating dependent status.
Career Compensation Act of 1949.	The Career Compensation Act established the present BAQ structure, including a with and without dependent rate.

**Table 1 Summary of Officer BAQ**

*b. Enlisted*

In much the same way as officers, initial rules were locally generated.

Although the enlisted rate was much lower than the officers, if government quarters were not available, enlisted personnel were authorized commutations in kind for quarters. These rates and policies were decided at a local level until the Act of March 4, 1915 when statutory payments first appeared.

The first legislative recognition that enlisted personnel in the highest three pay grades who had dependents were entitled to public quarters, or a cash allowance in lieu of quarters, appeared in the Act of October 17, 1940 (Department of Defense, Office of the Secretary of Defense (1991), p.73).

The principle that all enlisted personnel should be entitled to public quarters, or a cash substitute, and the related principle that certain grades of enlisted personnel should be entitled to quarters adequate to house themselves and their dependents were introduced in the Career Compensation Act of 1949. This act slightly expanded the category of enlisted personnel entitled to dependents' housing to include "career" members instead of just the three highest pay grades. (Department of Defense, Office of the Secretary of Defense (1991), p.73) The Act also provided that, for BAQ purposes, members in pay grades E-1 to E-4 (less than seven years of service) were at all times to be considered as without dependents regardless of actual dependent status. This provision stemmed from the prevailing view that personnel made better servicemen when not married - i.e., were less likely to create a "social problem". Consequently, a policy decision was made to structure

quarters allowances so as to discourage personnel from marrying. (Department of Defense, Office of the Secretary of Defense (1991), p.74)

With the coming of the Korean conflict and the anticipation that individuals with dependents would be included in the Selective Service Selection, a temporary BAQ system was enacted by the Dependents Assistance Act of 1950 (Department of Defense, Office of the Secretary of Defense (1991), p.73). Although there have been several changes to the basis for calculations and names of the programs, enlisted BAQ, as it stands today, was introduced and eventually incorporated by the Career Compensation Act in 1973. A summary of these changes are included in Table 2.

<b>Summary of Navy Enlisted Commutation for Quarters</b>	
<b>Act</b>	<b>Policy</b>
Initially	Usually a command regulation and did not include consideration for dependent status.
Act of March 4, 1915	Made payments a statuary requirement.
Act of October 17, 1940	Authorized E-7 through E-9 to receive commutation based on dependents not occupying government quarters.
Career Compensation Act of 1949	Expanded Act of 1940 to include E-4 (with > 7 years service) and above.
Dependents Assistance Act of 1950	Established a temporary BAQ structure for all enlisted and included with and without dependent rates. This was during the Korean War.
Career Compensation Act of 1973	Revised the Career Compensation Act and established the present BAQ structure for enlisted members, including a with and without dependent rate.

**Table 2 Summary of Enlisted BAQ Commutation**

## **2. Variable Housing Allowance (VHA)**

VHA is an additional housing payment for high cost areas to those members not living in government quarters. This housing allowance was added to the compensation system to help offset some of the out of pocket costs to members living in high cost areas. VHA was added to the military compensation system by the Military Personnel and compensation Amendments of 1980. The amount of the allowance to which any given member was entitled was equal to the difference between the average monthly housing costs for members in the member's pay grade and 115 percent of the BAQ the member received. (Department of Defense, Office of the Secretary of Defense (1991), p.82) It should be noted that there was no differentiation for dependent status.

In 1985 the Department of Defense Authorization Act changed the method for computing VHA, but it did not change any VHA concepts. It wasn't until the Department of Defense Authorization Act of 1986 that the amount reflected dependent status. This act provided that calculation for VHA would be based on both the number of rooms and dependent status in much the same manner as BAQ. (Department of Defense, Office of the Secretary of Defense (1991), p.84) Adjustments to this initial calculation are done yearly by using a survey of members' housing costs.

## **3. Family Separation Allowance (FSA)**

FSA was first introduced by the Uniformed Services Act of 1963. The purpose of FSA is to partially reimburse members of the uniformed services who were involuntarily separated from their dependents for the amount of extra expenses that result from such

separations. (Department of Defense, Office of the Secretary of Defense (1991), p.685)

This type of FSA is called FSA-II. FSA-I is for members who require two households, one overseas and one in the United States. Since this study is for the continental United states only, only FSA-II is discussed.

This extra allowance is to compensate for the cost of various odd jobs around the home, automobile and appliance repair and maintenance, yard upkeep, and the like, that might ordinarily be taken care of by the member if not assigned to a remote duty station. This extra expense was paid at the rate of \$30 per month to members E-4 (over four years) or above who were away from home for greater than 30 days. The Uniformed Services Act was revised in 1970 to include FSA authorization for all members with dependents and again in 1993 to authorize an increase in the amount of compensation to \$60 per month. (Department of Defense, Office of the Secretary of Defense (1991), p.685,687)

#### **4. Mileage and Per Diem for Permanent Change of Station (PCS)**

Initially, compensation for a member's travel expenses were provided as a matter of policy and regulation, rather than under explicit authority of law. Compensation was limited to transportation in kind or to reimburse of actual expenses. This type of compensation became law when the Act of March 3, 1835 authorized a mileage allowance of 10 cents a mile for Navy officers ordered to make a permanent change of station. The Act of August 14, 1848 also appropriated funds for a mileage allowance for Army officers. The Act of May 18, 1920, authorized transportation in kind for the dependents of military personnel ordered to make a permanent change of station. This entitlement followed the same rules for

members through the years except at a different rate. The Act of June 10, 1922, was the first legislation to authorize a per diem allowance for military personnel. Per diem is authorized on a daily basis for the time required to travel between permanent duty stations or in connection with temporary duty, and for periods spent at a temporary duty station.

(Department of Defense, Office of the Secretary of Defense (1991), p. 661).

Although there were several changes in the amount of the mileage allowance and a provision to provide this benefit to all members, there was little change in the policy until 1980 when the services switched to paying a "Mileage Allowance in Lieu of Travel (MALT)." This authorized a payment rate of 15 cents per mile and \$50 per day for travel performed by a member in connection with PCS by privately owned vehicle. (Department of Defense, Office of the Secretary of Defense (1991), p. 660) Presently the MALT rates for per diem are \$50 per day for unaccompanied spouses (\$37.50 per day for accompanied spouses) and \$25 per day for dependents under 12 years of age. MALT rates for travel are 17 cents per mile when the member is accompanied by one dependent, 19 cents per mile when accompanied by two dependents, and 20 cents per mile when accompanied by three or more dependents. (Department of Defense, Office of the Secretary of Defense (1991), p.662)

##### **5. Household Goods Shipments for Permanent Change of Station (PCS)**

The Army Appropriations Act of August 23, 1842, provided funds for transporting the household effects of Army personnel. This appropriation was renewed year after year, but a permanent law authorizing such transportation was not adopted until 1946. The Act of May, 1920, stated that "personnel of the Navy shall have the same benefit of all existing

laws applying to the Army and Marine Corps for transportation of household effects.”

Although this provision was somewhat unclear, since the Army’s authority to ship household goods was dependent upon its annual appropriations rather than on a permanent law, it was construed to mean that Navy personnel had the same household effects entitlement granted Army and Marine Corps personnel by Army regulations. The Act of August 2, 1946, finally adopted specific statutory authority for the shipment of household effects for the personnel of all branches of service. (Department of Defense, Office of the Secretary of Defense (1991), p. 662)

Rather than applying a dollar amount, a weight limit was established, based on rank and dependent status. Presently, this weight standard varies from 1500 pounds for an E-1 without dependents to 18,000 pounds for an O-6 and above (Department of Defense, Office of the Secretary of Defense (1991), p. 663).

#### **6. Dislocation Allowance (DLA)**

The purpose of DLA is to partially reimburse members of the uniformed services for the average expenses they incur when relocating their households incident to a permanent change of station or as a result of unexpectedly having to evacuate their dependents from an overseas area to a safe haven or designated place. DLA is to help defray some of the costs such as (Department of Defense, Office of the Secretary of Defense (1991), p. 691):

- loss of rent deposits
- abandonment or forced sale of household goods that must be replaced
- added wear and tear on household goods in transit
- disconnecting and reconnecting telephone and other services
- added costs for food and lodging after household goods have been shipped from old duty station but before member and members dependents actually leave

- the same sort of costs at a member's new duty station before household goods arrive, the purchase of miscellaneous furnishings for a new home, and similar expenses.

Initially set at one months BAQ by the Career Incentive Act of 1955, DLA automatically incorporated rank and dependent status as a basis for the amount. The only significant change to this entitlement has been the increase from one to two month's BAQ by the Department of Defense Appropriations Act of 1990. (Department of Defense, Office of the Secretary of Defense (1991), p. 691).

## **B. RESEARCH QUESTIONS**

The primary question is: "Is there a difference in the Navy's costs and benefits for active duty individuals based on their dependent status?"

Secondary questions include:

1. What are the differences in monetary cost per person to the Navy based solely on cash payments or direct supplements such as BAQ, BAS, VHA, government housing and food assistance?
2. What other differences in cost to the Navy can be identified? These include, but are not limited to, medical benefits, child care, MWR, commissary usage, exchange usage, moving expenses, travel, clothing, family separation allowance, TAD costs and per diem.
3. What are the differences in benefits to the Navy? These include, but are not limited to, hours worked, increased retention, and fewer incidents of drug and alcohol usage and non-judicial punishments.
4. Is there an overall pay differential and what affect does this have on the Navy?

5. Does this pay differential attract and retain the kind of individuals desired?

### **C. SCOPE AND LIMITATIONS**

The main thrust of the thesis is to conduct a cost benefit analysis and determine any differences between individuals with dependents and those with out dependents. The group of individuals researched are Navy members in the continental United States (CONUS). For cost analysis, Fiscal Year (FY) 1994 data was used.

This thesis evaluates data and collates the results of various studies to determine the cost and benefits to the Navy associated with individuals based on dependent status. If a difference exists, this difference and the resulting effects will be evaluated. If the current system does not meet the current policy objectives, an alternative recommendation will be made.

### **D. ORGANIZATION**

This study includes six chapters. Following the introduction and background in Chapter I, Chapter II gives a detailed methodology of how all costs were calculated and explains any underlying assumptions. Chapter III discusses several previous studies on productivity and benefits based on dependent status and presents several surveys and articles on the service members' perception of differences in pay status. Chapter IV analyzes the data and provides conclusions, reveals some of the incentives that are set up by the differences in compensation, and presents the actual Navy policies and discusses if these policies are being met by the incentive structure. Finally, Chapter V suggests a possible alternative solution and the underlying policies required to adjust the compensation system.

## **II. METHODOLOGY OF DATA COLLECTION OF COSTS**

This section analyzes all of the major cost drivers that can cause a dependent-based difference in the pay and benefits received by individuals at a cost to the Navy. For purposes of this thesis, a member with a dependent is defined as a Navy member who meets the requirements for receiving BAQ at the dependent rate. These requirements are: the member is married to a non-military member, has custody of a child, pays child support, or is the major provider of an immediate family member. For the final difference in member compensation, two members will be compared. One will be a member without any dependents and the second will be an average member with a spouse and the average number of children as determined by the Navy Wide Survey. All sources of data, methods to consolidate the data, and other assumptions are discussed in this section.

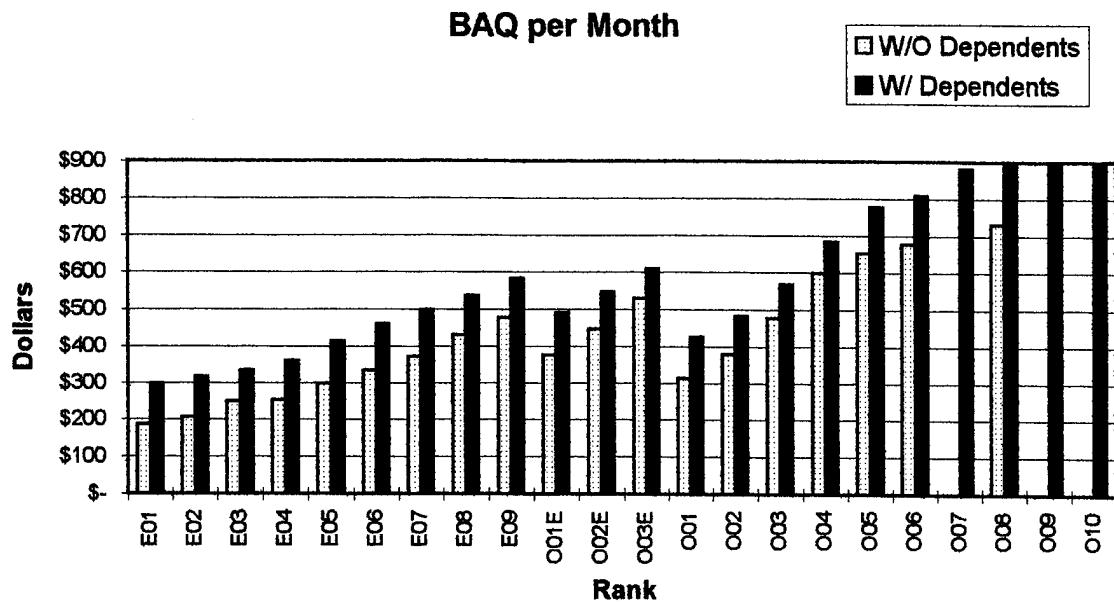
### **A. BASIC ALLOWANCE FOR QUARTERS (BAQ) COSTS**

All data for actual BAQ costs were collected from the Defense Manpower Data Center (DMDC) at Fort Ord, California. This data was collected in raw form by Deborah Davis and Gina Marchi from DMDC's active duty pay files. Since the amount of raw data was large, a representative sample for one month was chosen. All calculations are based on data for September, 1994 and then extrapolated to one year by multiplying by 12.

The individual raw data was then grouped into categories with the following field structure for consolidation: Service (Army, Navy, Air Force, Marines), Location (Continental United States (CONUS), or Outside Continental United States (OCONUS),

Pay Grade and BAQ status (Full, Partial, Single, Dependent). For example, all members in the Navy, living in the CONUS, of pay grade E-1 and receiving Full BAQ at the dependent rate, would be collected as a group. See Appendix, Table 1.

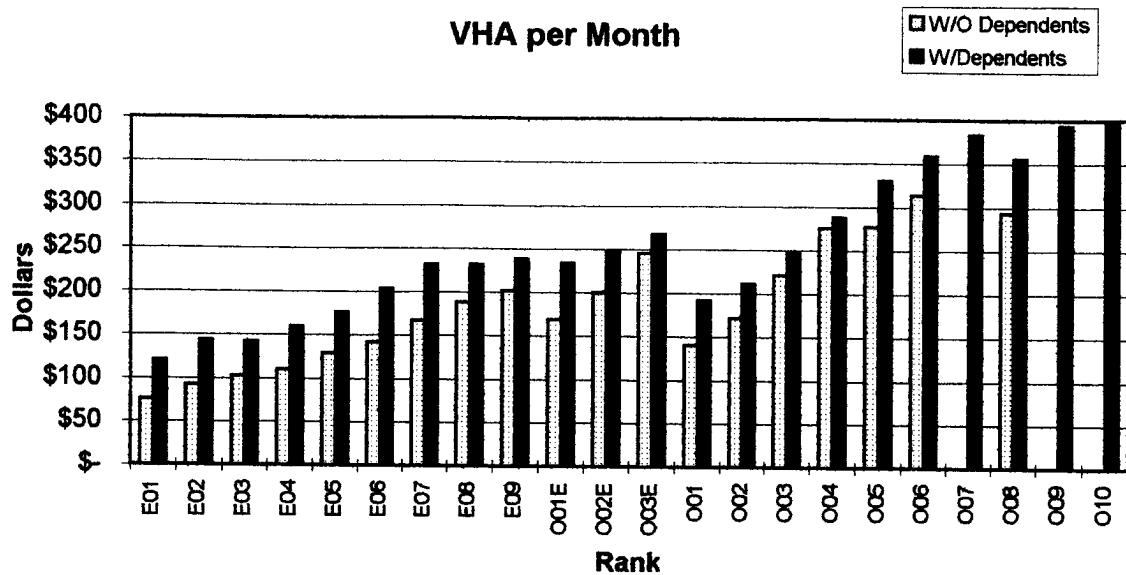
Using this grouping structure, the following information was extracted from the records by rank and BAQ type: number of individuals eligible for BAQ, number of members actually receiving BAQ and total BAQ expenditures for that month. The data was then limited to reflect active duty Navy members living in the CONUS. The first value calculated was the average cost of BAQ per month for all members eligible for that type of BAQ. This was calculated by taking the total expenditure on a particular type of BAQ divided by those eligible for that BAQ. This was then multiplied by 12 to get the average cost per eligible person per year. Next, the average cost of BAQ per month for all members actually receiving BAQ for that type of BAQ was determined. This was calculated by taking the total expenditure on a particular type of BAQ divided by those receiving that type of BAQ. This was then multiplied by 12 to get the average cost per person by rank receiving BAQ per year. See Appendix, Table 2 and 3. Since all members receiving full BAQ receive the entire amount, this calculation was used to verify the accuracy of the data base. There was a 2% tolerance reflecting a relatively accurate data base. A summary of the averages by rank is shown in Figure 1.



**Figure 1 BAQ per Month by Rank**

**B. VARIABLE HOUSING ALLOWANCE (VHA) COSTS**

VHA costs were calculated using the same data fields and methodology for calculating BAQ. VHA results are included in Appendix, Table 4 and 5. There were no VHA payments to members without dependents for O-7, O-9, and O-10. A summary of the averages by rank is shown in Figure 2.



**Figure 2 VHA per Month by Rank**

**C. CONTINENTAL UNITED STATES COST OF LIVING ALLOWANCE  
(CONUS COLA)**

This program was not effective until July 1995. Since this analysis is based upon FY 1994, there are no values for CONUS COLA. All members in a high cost area are eligible for CONUS COLA, however, CONUS COLA is based on dependent status much like VHA and BAQ and therefore payments for members with dependents would be higher than payments to members without dependents. It should be noted that the basis for CONUS COLA is slightly different than OCONUS COLA. It is based on dependent status and not number of dependents as is OCONUS COLA.

#### **D. MEDICAL COSTS**

Medical costs per person were received via telephone call from the Plans, Analysis and Evaluation Division of the Bureau of Medicine and Surgery. The value used is the 1995 Distribution Rate of Cost per User from the Health Affairs Capitation Model, line 5. These costs are calculated by determining the total budget for all medical facilities in each branch of service, less GME (i.e. internship and graduate education costs), and dividing it by all personnel who are eligible to use these facilities. Eligible personnel include active duty, retirees, dependents and survivors. The values for FY 1995 are based on actual data from FY 1994 and therefore the data reflects actual FY 1994 costs. These costs were \$1970 per eligible user per year.

#### **E. DENTAL COSTS**

Dental costs per person were received from the Plans, Analysis and Evaluation Division of the Bureau of Medicine and Surgery. This information was collected by LT. Mike Schaffer from the Annual Work And Resource Evaluation (AWARE) model.

There are two different values that could be used for comparison. One is the Capitated Cost per Beneficiary and the other is the Patient Care Cost per Beneficiary. The Capitated Cost per Beneficiary is the total cost of maintaining the Dental Clinic and providing actual dental services. This combines both fixed and variable costs, including the expense operating budget (including patient care costs) under the commanding officer's control, military pay for officers and enlisted attached to the clinic, other procurement costs related to the clinic, base operating and support, maintenance and real property, training,

OCC health and other miscellaneous costs. The Patient Care Cost per Beneficiary is similar to a variable cost which includes: filling material, x-rays, napkins, tools, gloves, caps, etc. Patient Care Costs are a subset of the Expense Operating Budget and are considered the costs directly related to the delivery of dental care.

This study is looking at the difference between costs to the Navy of members with and without dependents, and not the total cost of providing a service. This difference reflects variable costs. Fixed cost should be removed when using either dollar amount. For simplicity, the Patient Care Cost per Beneficiary was used. The Capitated Cost per Beneficiary is included for information purposes. The cost per user for OCT., 93 - SEPT., 94 is:

Capitated Cost per Beneficiary = \$320.03/YR.

Patient Care Cost per Beneficiary = \$57.68/YR.

Unlike medical costs, almost all dental facilities costs reflect service for active duty members. Non-active duty personnel were covered by the Delta Dental Plan and are now covered by the TRICARE-Family Member Dental Plan. Since these costs are covered by the active duty member in the form of a monthly payment to an outside insurance company, these amounts are not included in the dental costs to the Navy.

USC Title 10 states that dental care will be provided to retirees, dependents and survivors on an "if available" status. In FY 1994 approximately 95% of all dental care was to active duty members. The remaining 5% was spread among emergency care cases for retirees, dependents and survivors. The total Patient Care Cost for FY 1994 was \$35.9 million. Five percent of this is only \$1.8 million. When spread among the 622,265 active

duty beneficiaries for FY 1994, this results in a \$2.89 per active duty member per year in additional costs. Since this includes all non-active duty members and is such a small amount, BUMED does not track these costs separately. (Bureau of Medicine & Surgery, Plans, Analysis and Evaluation (BUMED-822) (1995)) Therefore, for this analysis, dental costs for all active duty members will be considered the same.

#### **F. CHILD CARE COSTS**

Child care costs were received by a phone interview with Mrs. Anne Weiser from the Child Development Services Department. According to their yearly reports, the Navy spent \$58.5 million on child development centers and the Family Child Care Program. An additional \$6.5 million was spent on the School Age Care Program for a Navy total of \$65 million for all major child care programs.

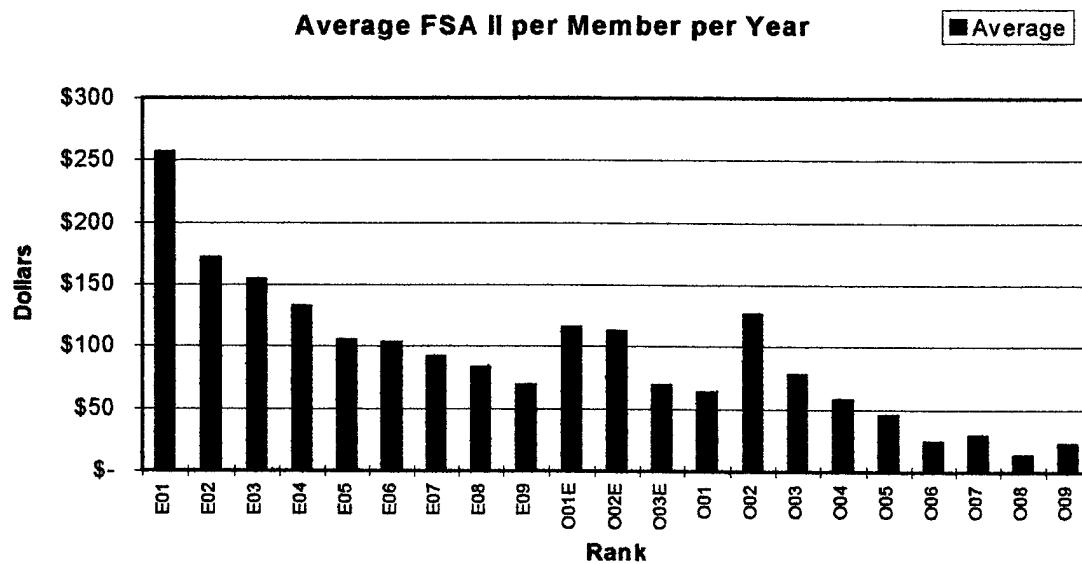
Since there were 229,244 active duty members with dependents in September 1994, the average cost per member with dependents is \$65 million/229,244 members or \$283.54/per member with dependents per year.

#### **G. FAMILY SEPARATION ALLOWANCE II (FSA II) COSTS**

All data for FSA II costs were collected from the Defense Manpower Data Center (DMDC) at Fort Ord, California. This data was collected in raw form by Gina Marchi from DMDC's active duty pay files. Since the amount of raw data was large, a representative sample for the month of September was chosen. All calculations are for September 1994 and then extrapolated to one year by multiplying by 12. The following field structure was

established to consolidate the individual information: Service, CONUS or OCONUS, Pay Grade and FSA-II.

The data was consolidated to summarize the amount received by rank, how many members received FSA II, the average payment to each member who received FSA II and the average payment to all members with dependents per rank. This data is for September 1994. Even though this amount will vary from month to month, and would increase during high operational times such as desert storm, September values are multiplied by 12 to get a representative, normal operating tempo yearly total. To get the Navy's actual FSA-II payments in FY 1994, a more detailed analysis for the entire period would be required. The total costs for FSA-II in the month of September 1994 was \$2,020,029.00. A summary of the average FSA-II payment by rank is shown in Figure 3.



**Figure 3 Average FSA II per Member per Year**

## H. TRAVEL COSTS AND PER DIEM COSTS

The total number of ALL military personnel receiving PCS travel and transportation allowances and the annual costs, are shown in Table 3 and Figure 4. (Department of Defense, Office of the Secretary of Defense (1991), p.665, 666) :

Fiscal Year	Members Traveling	Member Costs	Average	All Dependents Traveling	All Dependents Costs	Average
1987	1,572,689	\$ 608,516,000	\$ 386.93	599,125	\$ 208,327,000	\$ 347.72
1988	1,552,496	\$ 590,227,000	\$ 380.18	609,666	\$ 225,669,000	\$ 370.15
1989	1,532,409	\$ 588,636,000	\$ 390.65	596,258	\$ 229,562,000	\$ 385.00
1990	1,461,156	\$ 579,079,000	\$ 396.32	583,920	\$ 224,471,000	\$ 384.42
1991 est.	1,432,448	\$ 612,254,000	\$ 427.42	586,717	\$ 247,499,000	\$ 421.84
1992 est.	1,411,230	\$ 587,287,000	\$ 416.15	573,795	\$ 229,479,000	\$ 399.93
1993 est.	1,369,020	\$ 572,960,000	\$ 418.51	551,847	\$ 220,752,000	\$ 400.02

Table 3 Annual Military PCS Travel Costs

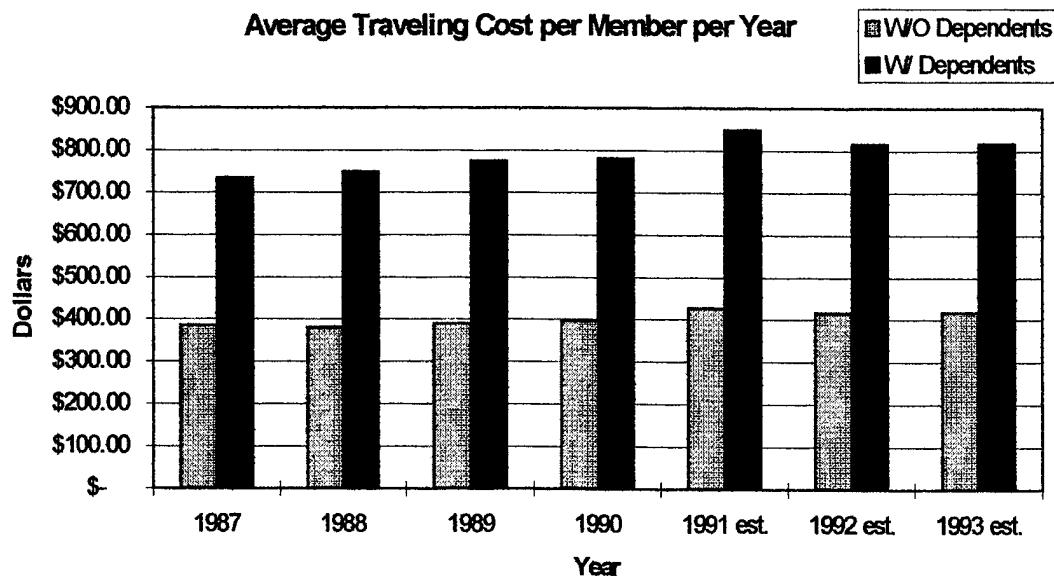


Figure 4 Average Traveling Costs per Member per Year

It should be noted that this is for all services and is not broken down by service. The Defense Financial and Accounting Service (DFAS) does not keep data on individual moves and dependent status in Cleveland or Columbus, where most Navy pay data is assembled. In addition, it is impossible to determine who moves when, where, how far and with how many dependents by simple assumption. Therefore, per diem and travel costs cannot be broken down on an individual basis. However, the data shows that it costs about \$400 more per member to move members with dependents.

## **I. DISLOCATION ALLOWANCE (DLA)**

The dislocation allowance data is maintained by the Permanent Change of Station Variance Analysis division at the Defense Finance Accounting Station in Cleveland, Ohio. DLA cost data as used in this study was reported by this division for the continental United States and includes both operations and training PCS moves for FY 1994. The system has the capability to sort the data into with and without dependent rates, but a further breakdown by rank was unavailable. The results are summarized in Table 4.

	Single			With Dependents		
	Total	Number	Average	Total	Number	Average
DLA	\$ 7,811,822.00	10391	\$751.79	\$ 41,878,701.00	43642	\$ 959.60

**Table 4 FY 1994 DLA Costs**

The resulting difference was \$207.81 on average. Although this number is not accurate at each level of the pay scale, it does show that there is a difference in the costs to the Navy associated with a members dependent status. An interesting statistic that comes from this data is that members with dependents received more than four times as many

payments as single members yet there were approximately 265,000 members with dependents and 198,000 members without dependents resulting in only a 1.34 to 1 ratio. One reason for this could be that members moving into government quarters at their next duty station do not receive DLA, and the majority of the single members tend to be junior enlisted members who are required to live in the barracks. A follow on study of this would be very informative.

#### **J. HOUSEHOLD GOODS SHIPMENT COSTS**

Dependent status for household effects shipment is not kept in the household effects shipment costs data base (Phone call to Janiva Linkenhoker at Finance Office in Norfolk). Although dependent status from the household goods shipment paperwork is used to determine allowable weight and to verify that the weight limit was not exceeded, dependent status is never recorded in the data field for accounting purposes. It is beyond the scope of this thesis to determine the cost breakdown of household effects shipments. The total costs for all household effects shipments for all services are included in Table 5 to indicate the magnitude of the costs for shipping household effects (Department of Defense, Office of the Secretary of Defense (1991), p. 665).

Fiscal Year	Total Cost
1987	\$ 742,586,000
1988	\$ 773,527,000
1989	\$ 824,168,000
1990	\$ 922,497,000
1991 est.	\$ 995,079,000
1992 est.	\$ 1,009,739,000
1993 est.	\$ 1,063,776,000

**Table 5 Military Household Goods Shipment Costs**

## **K. COMMISSARY AND EXCHANGE COSTS**

Unlike many of the services provided to eligible personnel, the Navy Exchange and Commissary Systems are essentially self-funded. This means that almost all of the operating costs incurred are covered by the income these services generate. In fact, the system usually operates at a profit which is then distributed to the Navy's Morale, Welfare and Recreation (MWR) system. For example, the Navy Exchange System had over \$2 billion in sales in 1994 and generated over \$70 million for MWR (Kobi (1995), p.14).

The only costs covered by the Navy are the appropriated funding personnel and shipping charges for overseas shipments. In 1994, there were 50 Officers and 30 Chief Petty Officers attached to NEXs. (Kobi (1995), p.14) The Navy does not usually provide special trips to ports for NEX or Commissary support. Instead, if a trip to a location is available, they will ship the goods for free.

Since both of these costs are relatively low and actually determining who receives these benefits is beyond the scope of this thesis, this study will assume there is no impact on the difference in payments to individuals based on dependent status.

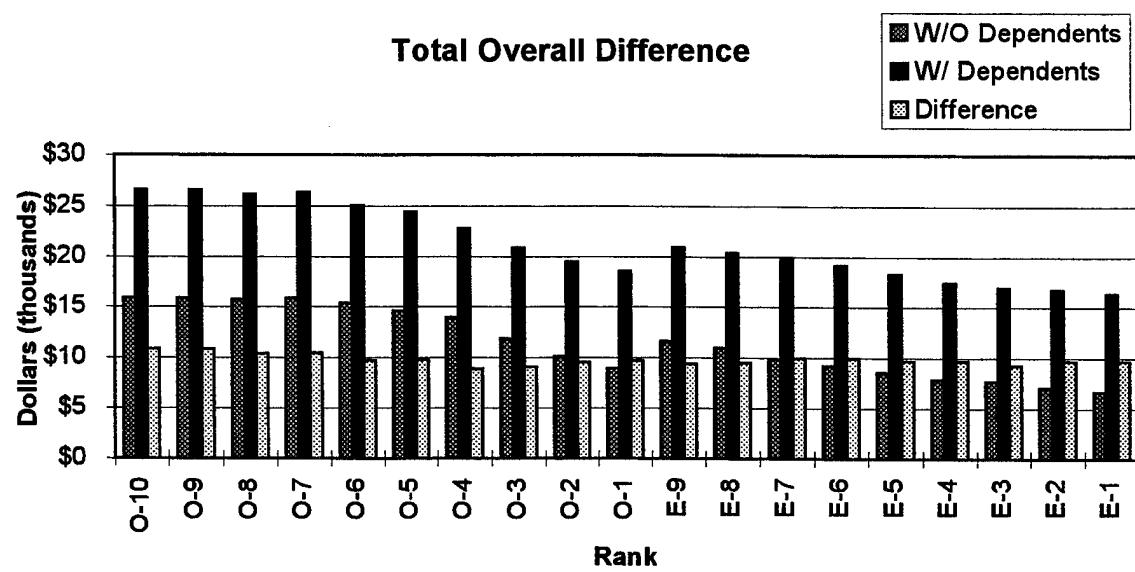
## **L. SURVIVOR BENEFITS**

The Navy incurs several costs to provide stability and benefits to members' survivors. Such costs include Dependency and Indemnity Compensation, approx. \$2.5 billion in 1991 (Department of Defense, Office of the Secretary of Defense (1991), p. 550). Even though these costs are not included in the study, it should be noted that these costs

would only cause a greater discrepancy in the cost of maintaining a member based on dependent status.

#### **M. TOTAL OVERALL DIFFERENCE IN COSTS**

These total costs are NOT the summation of ALL compensation costs associated with individuals in the service. The total costs here are the summations of all major cost drivers that vary with a member's dependent status. Many costs, such as base pay, are the same for all members in a pay grade with the same longevity regardless of dependent status. Because this study wishes to determine only the differences in pay, these other compensations that are independent of dependent status are not included in the totals. The meaningful results are not the actual total costs for each member, but the differences in the totals. For a cost comparison, two members are used. The first member is single without dependents and the second member is married with 2 children. As shown in Appendix, Table 6, there is a difference. This difference is shown in Figure 5.



**Figure 5 Differential Cost Of Single vs. Married With Two Dependents**

### **III. METHODOLOGY OF BENEFITS DATA COLLECTION**

This section discusses the results of several studies that have considered the effects of dependent status. The purpose of this section is to review these studies and determine if the Navy receives any added benefit from employing members with dependents, or if dependent status is a negative or irrelevant factor. In addition, several surveys and interviews are reviewed to determine the perceptions of pay and privilege inequality for individuals in the military.

#### **A. STUDIES, SURVEYS AND INTERVIEWS**

##### **1. “Family Status and Initial Term of Service”**

Recently, the Commandant of the Marine Corps stirred up a lot of interest when he announced a policy of not allowing more married individuals to enlist in the Marine Corps. Even though the policy was overruled and dismissed shortly afterwards, it caused the Office of the Assistant Secretary of Defense (Personnel and Readiness) to take interest in such a proposal. As a result, a detailed study of the behavior of first term individuals was conducted using several variables, including dependent status. This study was published in 1993 and is called the Family Status and Initial Term of Service study.

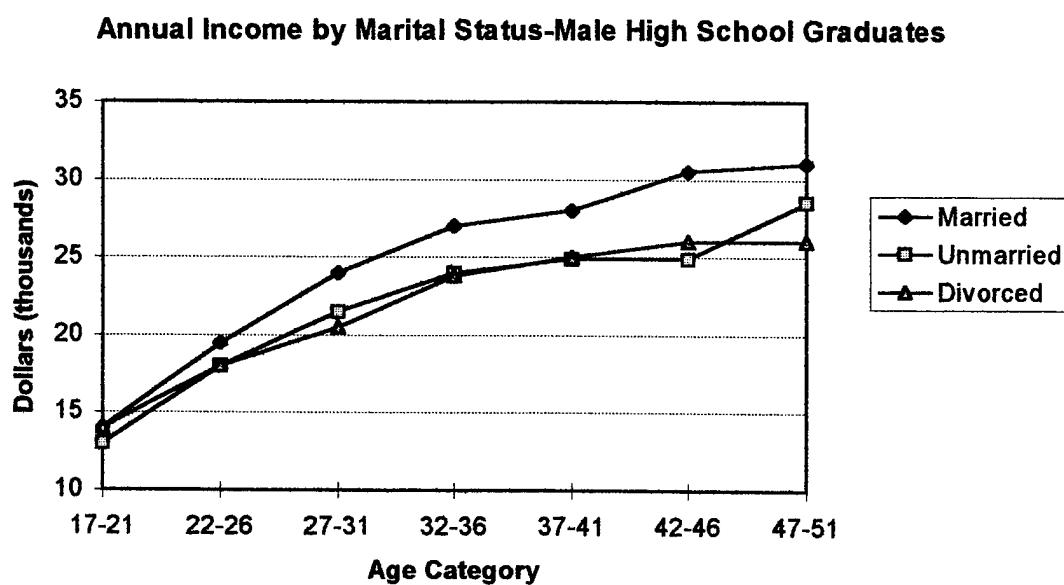
Some of the findings of this study reported in the summary are (Department of Defense, Office of the Assistant Secretary of Defense, Vol. I, (1993), p.13-14):

1. The study group found no clear, statistically valid quantitative relationship, positive or negative, between marital status and readiness.
2. The vast majority of members, regardless of marital or dependent status, deploy when ordered. However, service members with dependents report more problems getting ready to deploy than do members without dependents.
3. Married members tend to have slightly fewer performance and behavioral problems. However, problems of married members tend to be more complex and much more time consuming for commanders, distracting those commanders from mission-oriented activities and leading to a perception that marital status has a significant impact on readiness.
4. While marriage in the first term may pose challenges to the member, many members consider a strong marriage key to a successful long-term military career.
5. Many married junior enlisted personnel have financial problems, especially in areas with high off-base housing costs. Finances and housing problems are at the root of many other problems which service members experience in the first term. Service members and families frequently lack key information about compensation, financial management, and housing.

## **2. "Does Marriage Really Make Men More Productive?"**

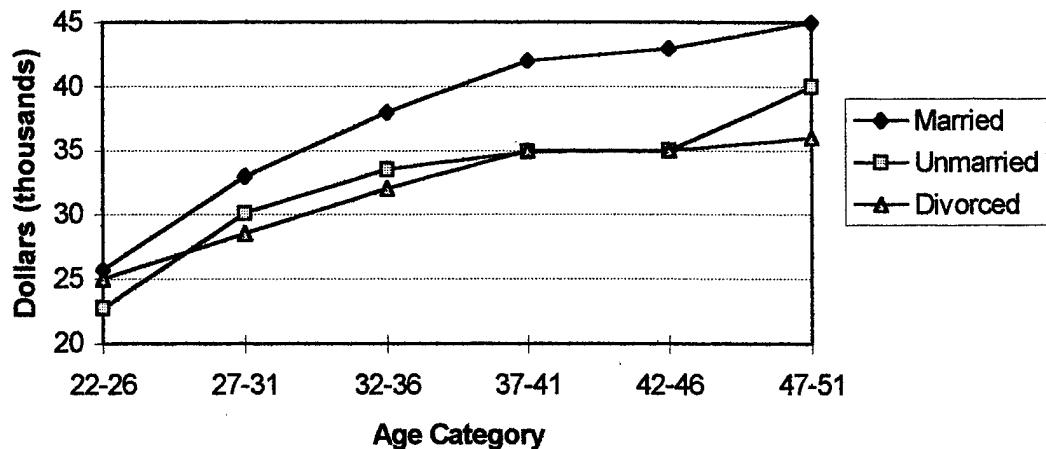
This study was conducted in 1990 to determine if there is a correlation between marital status and productivity. The study included the general population. This study

found that married men are paid more than their unmarried counterparts, not only in the United States but in other industrial countries as well. (Korenman & Neumark, (1991), pp. 282-307) Typically, these differentials range from 10 to 40 percent, roughly as large as differentials due to race, firm size, inter industry factors, or union wage agreements. Several reasons have been advanced to explain this phenomena: that marriage makes workers more productive, that employers favor married men, or that males are selected for marriage either on the basis of wage or for other characteristics also sought by employers. (Korenman & Neumark, (1991). p. 283) These differences are shown in Figures 6, 7 and 8.

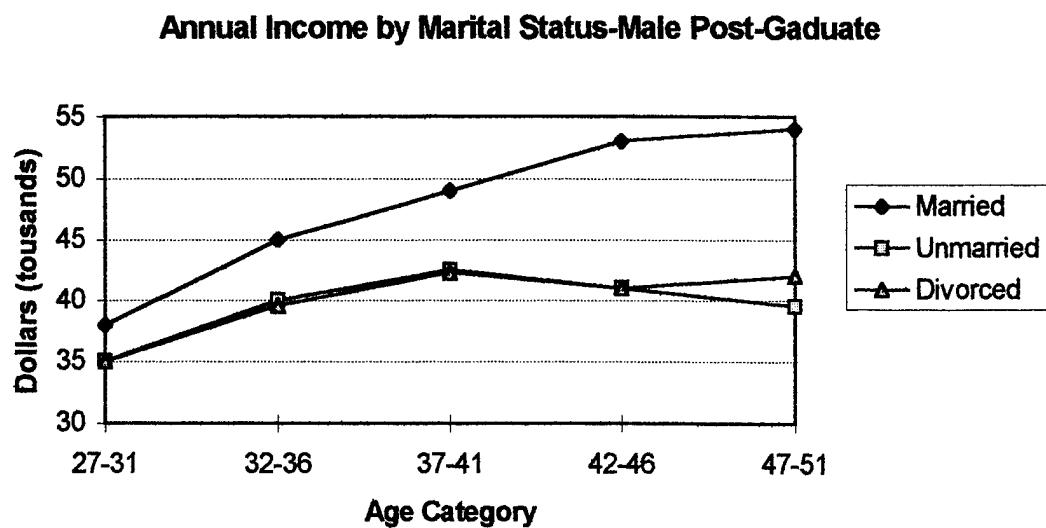


**Figure 6 Annual Income by Marital Status-Male High School Graduates**

**Annual Income by Marital Status-Male College Graduate**



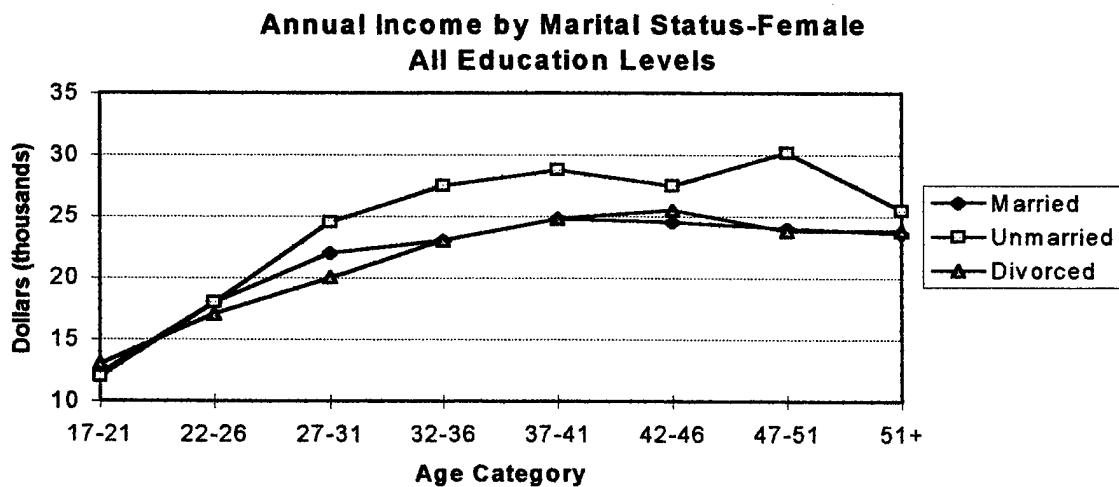
**Figure 7 Annual Income by Marital Status-Male College Graduate**



**Figure 8 Annual Income by Marital Status-Male Post-Graduate**

The major public data bases do not allow a systematic answer to the question of why these differences occur, because they do not measure various variables that could help reveal the underlying cause. However, one U.S. firm reported that most of the difference occurred because married men generally are working at higher paid (i.e. more responsible) jobs (the firm had a pay grading system). Married men also received higher performance ratings than unmarried men. (Korenman & Neumark, (1991). p. 293) The study also looked at summary statistics from the Current Population Survey and cross-sectional analysis which suggest that men who divorce subsequently experience a relative decline in pay. There appears to be a relationship between the length of time a man is married, or divorced, and his income. (Korenman & Neumark, (1991). pp. 293-294)

Females display the opposite relationship. Married women report somewhat lower incomes than single women. That relationship holds up across all education levels as shown in Figure 9. (Korenman & Neumark, (1991). pp. 282-307)



**Figure 9 Annual Income by Marital Status-Female All Education Levels**

**3. "What Enhances or Inhibits Learning a New Job? A Basic Career Issue."**

The estimated population for this survey consisted of 604 experienced, lower to mid-level managers (surface warfare officers) who were assigned to one of four major department head (DH) positions in 311 different organizations (ships) over a 4-month period. The sample consisted of 296 officers whose descriptive statistics did not vary significantly from the population. These lieutenants junior grade (1%), lieutenants (69%), and lieutenant commanders (30%) had from 2 to 15 years of supervisory experience, with an average of 8.9 years. At least 3 years had been in subordinate division officer (DO) positions on other ships. All DHs supervised between 50 and 85 subordinates and had received job-specific training. Seventy-seven percent were married, and ninety-seven percent were male. (Brantner & Morrison, (1992), p. 929)

This study found that a family had a negative impact on the learning process. The three largest negative contributors to the learning process are, in order: 1.) the command is presently non-operational and does not go to sea, 2.) distal prior task experience similar to DH resulting in the individual first having to unlearn the previous job before learning the new job, and 3.) having a family which added outside stress and distractions to learning the new job. As the number of dependents increased, the inhibitory effects of the family also increased, whereas an increase in job significance helped decrease the family effects (Brantner, & Morrison, (1992), p.938)

According to this study, the relationship between the family's impact and the learning process was not surprising given previous research concerning career issues in

military settings (Bruce & Burch, 1989; Burch, Sheposh, & Morrison, 1991; Murphy, 1989). In the majority of the studies conducted by DPRDC, having a family or dependents usually caused a slight decrease or no effect in a member's overall performance (Brantner, & Morrison, (1992), p. 938).

#### **4. "Surface Warfare Junior Officer Retention: Spouses' Influence on Career Decisions."**

This study surveyed 312 junior officers (JO) concerning their spouse's influence on their decision to make the Navy a career. It further evaluated the causes for the spouse's influence. Based on the survey results, a series of analyses were conducted to determine whether a JO's marital status was related to officer quality, career intent, and other variables. The study's findings concluded that married officers had no greater intent of staying in the Navy than did single officers, nor did the two groups differ in officer quality. (Holzbach, Mohr, & Morrison, (1981), p. 13) There were small differences and preferences noted, but there was no evidence to show that being married raised or lowered retention rates.

Further detailed analysis did reveal that the officers whose spouses supported the Navy had a much higher retention rate than those whose spouses were neutral or antagonistic. The study found that spouses not working outside of the home tended to encourage the officer to stay in the Navy more than spouses who worked outside the home. In 1981, the time of this study, sixty five percent of married JO spouses were employed

outside the home. As the spouse's professional status increased, support for the Navy decreased even further. (Holzbach, Mohr, & Morrison, (1981), p. 15)

In general, the study found that a JO's marital status had little to do with performance or retention. However, within the married group, a spouse had a great deal of influence on the service member's retention decisions.

#### **5. "Officer Career Development: Surface Warfare Officer Retention"**

A second study similar to the junior officer retention study, was conducted in 1991. It also found that spousal support was a large factor in organizational commitment and the officer's career intent. However, the study found little or no difference between the retention or performance of married and single individuals. (Burch, R. L., Sheposh, J. P., Morrison, R. F. (1991). 20)

#### **6. "Navy-wide Survey for 1994"**

The Navy-wide survey is an annual questionnaire that is sent to about 17,000 active duty enlisted personnel and officers in the Navy, of which about 47% are satisfactorily returned. The sample covers a wide range of areas, ranks, ages, ethnic groups and other variables to get a representative sample. Some of the questions asked in 1994 related to the perception the members had concerning the effects of having dependents.

Question #54 asked "Do you feel that child care needs interfere with your ability to perform at work?" Survey members with dependent children responses are summarized in tables 6 and 7. (Ford, Kantor, & Wilcove, (1995)):

Frequency	E1 - E3	E4 - E6	E7 - E9	Total
Never	24.3%	26.4%	27.8%	26.4%
Rarely	17.8%	25.7%	29.8%	25.6%
Sometimes	39.4%	37.1%	34.7%	36.9%
Often	11.4%	6.8%	4.1%	6.8%
Very Often	7.0%	4.0%	3.7%	4.2%

**Table 6 Enlisted Member Child Care Interference Frequencies**

Frequency	O 1 - O 3	O 4 - O 10	Total
Never	30.4%	30.0%	30.4%
Rarely	32.7%	38.5%	35.1%
Sometimes	30.5%	28.1%	29.6%
Often	3.6%	1.7%	2.7%
Very Often	2.7%	1.7%	2.2%

**Table 7 Officer Child Care Interference Frequencies**

To determine how performance is affected, question # 55 asked "In what way does child care needs interfere with your performance?" Survey members with dependent children responds are summarized in Tables 8 and 9. (Ford, Kantor, & Wilcove, (1995)):

Interferences	E1 - E3	E4 - E6	E7 - E9	Total
Does not apply	33.0%	38.2%	39.3%	38.0%
Distract at work	7.5%	7.2%	8.3%	7.4%
Miss work	5.1%	4.4%	5.8%	4.6%
Late for work	3.3%	3.8%	3.3%	3.7%
Must leave early	9.2%	14.3%	16.0%	14.1%
Lim. Bil. choice	4.6%	3.0%	1.6%	2.9%
Friction cowork	13.6%	6.5%	2.7%	6.5%
Stress increase	17.0%	19.4%	17.8%	18.9%
Other	6.7%	3.2%	5.2%	3.8%

**Table 8 Enlisted Member Child Care Interference Reasons**

Interferences	O1 - O3	O4 - O10	Total
Does not apply	41.5%	45.8%	43.6%
Distract at work	6.3%	9.7%	7.9%
Miss work	3.6%	7.0%	5.2%
Late for work	5.9%	2.0%	4.0%
Must leave early	15.5%	14.3%	14.8%
Lim. Bil. choice	2.1%	1.5%	1.8%
Friction cowork	1.0%	0.8%	0.9%
Stress increase	20.1%	14.3%	17.5%
Other	4.1%	4.7%	4.3%

**Table 9 Officer Child Care Interference Reasons**

This indicates that many service members feel their performance at work is hindered by having children. The reasons were varied, but the majority of them reduce productivity and man-hours worked. As a result, it can be assumed that many Navy personnel feel that having dependents reduces productivity at work.

#### 7. Navy Times Interviews

In dozens of interviews with Navy times, single and married military members described how marital status determines what, when and where they eat, who they live with, when they shower, where they live, how clean their rooms must be, which duty they pull and how much they are paid (Maze, & Pexton, (1995), p. 10). Although this article is more of an opinion type survey, it brings to light many of the perceived and actual inequities between married and single members.

For some, the inequity is so obvious and so painful, they quit. "Cliff, a sailor who recently left the Navy in San Diego, was a hard-charger, making petty officer first class in less than five years. But as a single person, he slept on a rack the size of a coffin, had a single tiny locker and gazed enviously each evening at the people he supervised, married E-

3s and E-4s, as they went home to a comfortable home or apartment." (Maze, & Pexton, (1995), p. 10)

Because unmarried E-5's and below are required to live onboard a ship when in port, complaints about living on-board ship run the gamut. Such complaints include: intrusive military inspections - even down to women's underwear drawers; stereo wars, with competitors using 200 watt systems to blast digital, decibel-pounding music; theft; bad food; limited dining hall hours; and worst of all, extra duty merely because they are available to be at the beck and call of some commander with a work detail. (Maze, & Pexton, (1995), p. 11)

11) The Navy has found that 33 percent of its bachelor quarters, 37,400 units, are substandard or inadequate, said ADM. Stanley Archer, who retired as vice chief of naval operations April 30 (Maze, & Pexton, (1995), p. 11).

Aboard the San Diego-based aircraft carrier Kitty Hawk, Lt.(jg) Craig Powell said the performance of his sailors is affected by the fact that they never get away from the ship. "There's the phrase 'if you are on the ship, you are on duty,' and it is true. If you are aboard in San Diego in port, it is like being deployed," Powell said. (Maze, & Pexton, (1995), p. 11) Another sailor concludes, "If you include field day nights where we have to clean the barracks for inspection, a person in the barracks puts in more time than a married person." (Cpl. Justin P. Emery). (Maze, & Pexton, (1995), p. 13)

Cliff, the petty officer from San Diego quoted earlier, also commented on pay differences. "When we deploy, they [married members] would have a higher take home pay than I did as an E-6," Cliff said. "The E-3 who worked for the E-4 who worked for the E-5 who worked for me earned more than I did. That would be like me going to AT&T to work

as a technician at a salary of \$30,000, and then they would say, ‘Oh wait, you’re married, we’ll give you \$45,000.’” (Maze, & Pexton, (1995), p. 10) Because of these perceived inequalities, many marines and sailors get married so they can receive the extra cash or live off-base. Marines and sailors frequently get married just before they deploy. (Maze, & Pexton, (1995), p. 13)

This indicates that there is a perceived and possibly real difference in the benefits received by members based on dependent status. Almost all the complaints noted in the Navy Times interviews involved actual moneys received or the privacy and adequacy of housing. As expected, many of the other, and sometimes more expensive, differences were not noted or even known by the members. If a change in pay or policy is to be effective at deterring this discontent, it should first focus on these two major differences.

#### **8. Air Force Times Interviews**

Interviews in the Air Force times found the same discontents and arguments about pay and marital status as noted by the Navy Times. However, the Air Force times went one step farther; they interviewed several “experts” in the field. Experts disagreed about whether the extra pay for married members is justified.

David Segal, a military sociologist at the University of Maryland, believes it is warranted because military life is unique. Frequent separations, a work-life normally limited to 20 years and the risk of death justify the extra pay for service members with families. Segal also pointed out that studies show that married service members are more stable and cause fewer disciplinary problems than single members.

But, Mairs, a personal consultant, disagrees. He believes subsidizing marriage has caused the military to become an increasingly married force. He pointed to other studies showing that single people are more deployable and productive. Without the extra pay for married members, the proportion of single military members would rise, and the additional costs the Pentagon bears for child care, schools and health care would fall. (Maze, & Pexton, (1995), p. 14)

Once again, there are several opinions for and against pay differences. In addition to opinions, both experts were able to quote studies that backed their opinions. One of the conclusions that can be made from these surveys is that there are both advantages and disadvantages for the Navy from having members with dependents.



## **IV.CONCLUSIONS**

### **A. COST BENEFIT ANALYSIS**

The cost benefit analysis is pretty straight forward, when taken at face value. There is definitely a substantial additional cost in the current pay structure for members with dependents as compared to those without dependents. The additional benefits received from employing members with dependents are not significant, if there are any at all. In the studies, surveys and experiences of those researched, some studies found advantages to employing members with dependents, some found disadvantages, and others found no correlation between a member's performance and dependent status. A reasonable interpretation of these mixed results is that there is no significant difference in the benefits received by the Navy from a member based on dependent status, but there is a significant cost differential.

### **B. INEQUALITIES**

The fact that there is inequality in the pay, benefits, privileges and opportunities received by members based on dependent status is probably the only thing that all individuals could agree upon. The impact or unfairness that this inequality creates, however, is viewed very differently by different individuals.

### **C. INCENTIVES**

The pay and benefits received by members under the present system provide several incentives to members that were neither purposely designed into the system nor necessarily desired. In fact, as discussed earlier in the BAQ section, the only payment that the military adjusted specifically to influence member behavior was the requirement for all E-4 and below (with less than seven years) to be considered at the without dependent rate, regardless of actual status. This reflects the belief that single junior members cause fewer social problems. Thus, the system was structured to remove incentives for junior members to get married.

However, because of the gaps in members' benefits and privileges, many members decide to get married or have children so that they can receive these incentives. Several of the studies and surveys that were analyzed in Section III provide data and opinions suggesting that these incentives were indeed some of the major factors in a members' decision to get married or have children. A further detailed analysis of the actual decisions members make, and how the present system influences these decisions, is necessary to make a stronger and more specific conclusion.

### **D. POLICY**

Throughout the history of the United States, the military has had specific policies concerning the enlistment, recruiting and retention of members based on their dependent status. For roughly 170 years, the peacetime military attempted to keep the vast majority of its members single, prohibiting the enlistment of married members, discouraging the

marriage of career members, and offering a quality of life that favored bachelorhood (Family Status and Initial Term of Service, Vol. II (1992)). A sample of some of the policies issued during the past two centuries are summarized in Table 10:

YEAR	POLICY
1815-1860	No man having a wife or child shall be enlisted in a time of peace without special authority from the General Headquarters.
1892	Congress established a program to make commissions available only for unmarried enlisted men under the age of 30.
1913	The enlistment or re-enlistment of married men is to be discouraged, and will be permitted only for some good reason in the public interest.
1917-1918	In time of war, enlistment of married members will be governed by special rules as prescribed by the Secretary of War.
1925	It is not the policy to discourage the enlistment or re-enlistment of married men, but they will be made only on the approval of the commanding officer.
1939	No man with a lawful wife or dependent could be accepted for original enlistment in peacetime.
1949	Applicants with dependents are only allowed to enlist if they are entitled to enlist at grade three or higher.
1956	Men with one dependent can enlist if their AFQT score was >65.
1964	Married men and women are considered ineligible for enlistment.
1970	Members with two or more dependents are considered ineligible for enlistment unless they are classified I-A by the Selective Service.
1971	Development of the "Odds for Effectiveness" (OFE) tables and later the "Success Chances for Recruits Entering the Navy" (SCREEN)

**Table 10 Summary of Navy Dependent Policy**

The SCREEN system used the applicant's education level, age, AFQT score, and dependency status to determine the chances of effectively completing the first year of enlistment. Dependency status lowers an applicants' SCREEN score and lowers his or her chance at being accepted for enlistment. In 1980, dependency status was removed from the

SCREEN score and a very detailed enlistment eligibility was established. Today's enlisted eligibility status includes marital and dependent status, as shown in Table 11.

Marital/Dependent Status	Army	Navy	Marine	Air Force
<b>Single</b>				
No Dependents	Yes	Yes	Yes	Yes
<b>Dependents</b>				
No Custody/Paying Child Support (1)	Yes	Yes	No*	No*
No Custody/Paying Child Support (2)	Yes	No	No*	No*
No Custody/Paying Child Support (>2)	No*	No	No	No*
Custody	No	No	No	No
<b>Divorced</b>				
No Custody/No Child Support	---	---	No*	---
No Custody/Paying Child Support	---	---	No*	---
Custody	---	---	No	---
Parent of Illegitimate Child	---	---	No*	---
<b>Married</b>				
No Dependents	Yes	Yes	Yes	Yes
One Dependents (Includes Spouse)	Yes	Yes	Yes	Yes
Two Dependents (Includes Spouse)	Yes	No*	No*	Yes
Three or more Dependents (Includes Spouse)	No*	No	No*	No*
<b>Separated</b>				
No Dependents (Except Spouse)	---	---	Yes	Yes
Dependents	---	---	No	No
<b>Spouse in Military</b>				
No Dependents	Yes	Yes	---	Yes
Dependents	No*	No*	---	No

No\* - Generally ineligible, but may qualify for a waiver.

**Table 11 Present Day Military Initial Enlistment Dependent Policy**

These policies are developed for a dual reason. The first is to evaluate the members' ability to financially provide for the dependents and the second is to eliminate some of the costs to the military, especially when members cannot complete their initial term of service.

## **E. CONCLUSION**

The Navy's pay structure and benefit system has evolved over time into a system that has many inequalities and incentives that are not an intentional part of the Navy's present day policies. The structure of this system needs to be formatted to achieve the Navy's goals with as little inequality or incidental incentives as possible. To do this, both the pay structure and member's benefits must be adjusted to reflect present day policies.

In this time of budgetary concern, this adjustment must be structured so that it does not substantially affect the Navy's costs. If this adjustment causes a large change in the costs to the Navy, a further analysis of the basis for the structure should be performed. The Navy may have to adjust it's policies so that it can afford to carry them out, or maybe these policies are valid and the Navy must find a way to cover the additional cost. In addition, this adjustment must not discourage those individuals that the Navy wishes to retain in the force.



## **V. RECOMMENDATIONS**

Much like the recommendations of the 7th Quadrennial Review of Military Compensation, one approach to fixing the pay and benefits system is to adjust each portion of the system individually. The objective is to restore equity at each level of the rank structure, remove incidental incentives, and maintain current pay levels for all members. Unfortunately, this results in huge “windfalls” for some individuals, substantial losses for others, alternative incentives which are not desired and generally end up increasing the Navy’s costs.

In addition, converting non-taxable income to taxable income adds complexity. There are added tax rate problems as members shift tax brackets. Any time the base pay changes, it also affects retirement pay. When combining payments, such as BAQ, BAS, and VHA, into a lump sum, the purposes and basis for these payments are often lost. Because of the complications involved with adjusting the present system to achieve equality and appropriate payments, completely re-engineering the system may be a better philosophy.

### **A. POLICIES FOR BASIS OF NEW STRUCTURE**

This section establishes the underlying policies chosen to establish a new compensation system. This section also includes the methodology for determining the amount of compensation; the vehicle for delivery is also explained for each part of the system.

**1.       Retention of Members:**

The system must be structured to provide the highest level of retention for highly qualified individuals at the lowest cost to the Navy. The retention consideration should be incorporated to provide sufficient incentives for all individuals to remain in the Navy with special incentives based on job rating and performance. This means the pay and benefits a member receives should not be based on marital status, dependent status, ethnic or cultural background, or sex.

Special consideration should be given to providing incentives for E-4 through E-7 and O-3 through O-5. Prior to E-4 and O-3, the members are usually in their first term; members are usually E-4 or O-3 when they reach the first decision point. By the time they reach E-7 and O-5, the members have the retirement incentive to maintain retention.

**2.       Family Separation Allowance:**

The basis for this payment appears faulty from its inception. The incidental costs to maintain a household while at sea are not more significant for married individuals than for single people. It may actually be much easier for married members to maintain a residence and cope with matters that come up while at sea. Single members definitely have to hire someone to mow the lawn, paint the house, take care of bills, etc., while they are at sea. In fact, they probably spend more when single than when married. In addition, if they do not maintain a household, they have to pay for storing their household effects at a rate much higher than FSA-II.

Because of this, FSA-II should be eliminated altogether. This would save the Navy over \$24 million dollars a year. Additional savings would result from paperwork reduction. These savings could be used to help cover the costs of some of the other restructuring proposed.

### **3. BAQ, VHA, CONUS COLA and BAS**

Without changing the entire system to a salary based system, the payment of BAQ, VHA, CONUS COLA and BAS are a necessity for those who do not live in government housing. These, and several other payments should be incorporated into two basic payments, a Basic Housing Allowance (BHA) similar to a combination of today's BAQ and VHA, and a Basic Living Allowance (BLA) which is a combination of the current BAS and CONUS COLA. If a member is occupying government quarters, this basic housing allowance would be forfeited, as it is today. A smaller payment might be included for members who reside in substandard quarters. If the member lives on the economy, the member would receive both payments in full and keep any savings.

A study of each duty station would be required to determine the average cost of housing and living expenses by rank. The basic housing cost would be determined by a set of standard space requirements. As a member attains a higher rank, these payments should increase for a higher living standard, but they should not be based on dependent status. Furthermore, these payment should remain non-taxable and should not be incorporated into basic pay. Such an inclusion would cause many inequities in the tax base and retirement benefits that could not be resolved without many individuals receiving large windfalls or

shortages. A complete study of space requirements would be necessary to provide a comparable living standard with that of the civilian sector. An example of this is shown in Tables 12 and 13:

<b>Room</b>	<b>Square Footage</b>
Bed Room (BR)	100 ft <sup>2</sup>
Living Room (LR)	144 ft <sup>2</sup>
Bath Room (Bath)	50 ft <sup>2</sup>
Dining Room (DR)	64 ft <sup>2</sup>
Kitchen (K)	50 ft <sup>2</sup>

**Table 12 Proposed Square Footage Allowance**

<b>Rank</b>	<b>Requirements</b>
E-1 through E-3	1 BR, 1 BATH, 1 K
E-4 through E-6	2 BR, 1 LR, 1 BATH, 1 K
E-6 through E-7	2 BR, 1 LR, 1.5 BATH, 1 DR, 1 K
E-8 through E-9	2 BR, 1 LR, 2 BATH, 1 DR, 1 K
O-1 through O-2	2 BR, 1 LR, 1 BATH, 1 K
O-3 through O-4	2 BR, 1 LR, 2 BATH, 1 DR, 1 K
O-5 through O-6	2 BR, 1.5 LR, 2 BATH, 1 DR, 1 K
O-7 through O-10	3 BR, 1.5 LR, 2 BATH, 1 DR, 1 K

**Table 13 Proposed Room Allowance by Rank**

In the past, these studies have been performed by the services to determine BAQ and VHA levels. By performing one study to incorporate all housing costs, a single amount can be determined. Eliminating VHA verification and rental agreements would also help reduce paperwork requirements. If a member decides to live in less costly housing, the member should retain the excess since the member has traded living comfort for an increase in

disposable income. In much the same way, if a member decides to live in more expensive housing, the member should pay for all additional costs.

BLA should be provided to all members. Whether a member eats at a dining facility or on the economy, the member still has to be provided a food allowance. If there is a dining facility at the duty station, all members should receive a payment that is equal to the cost of eating three meals a day at the facility. If a dining facility is not available, all members should receive a payment that would offset the cost of eating the same type of meals on the economy. In much the same manner as CONUS COLA, which is a payment to help offset a high cost of living area for such goods as groceries, gasoline, and other incidental costs associated with day to day activities, BLA should be adjusted to help defray these additional costs. Since all members, regardless of rank or living arrangements, experience these additional costs, BLA should be provided to all members. For these reasons, BLA would be the same amount for all members at a given duty station regardless of rank or living quarters. In addition, all members should be charged a set meal rate when using the dining facility.

Based on these policies, the information needed to determine the payment amount would be reduced drastically. By simply knowing the rank and whether a member lives in government quarters, an amount would be determined. Since this amount is independent of dependent status, any inequalities, perceived or real, will be eliminated. An additional issue in determining equality would be deciding which individuals live off-base. This thesis does not cover this issue, but now that it would be more affordable for single members to live off-base, this may become an area of concern.

#### **4. Household Goods**

Dependency status should have little to do with determining the amount of goods that a member can ship. Although dependency status may determine the make-up of the goods moved, it should not determine the amount of goods that a member is allowed to ship. A study should be performed to determine the weight of household goods for each rank based on the housing space allowance structure of BAQ.

#### **5. Travel and Per Diem**

Travel and per diem for members and their dependents should be paid to relocate members and their families. Although the rate at which a member is paid seems sufficient, the amount that is paid for dependent travel seems excessive. The dependent rate for traveling with a member should be the standard for all travel payments and the dependent rate for traveling without the spouse should be eliminated.

#### **6. Dislocation Allowance**

There are additional costs associated with moving to a new location. These costs are incurred because the member moves at the Navy's request. Therefore, the Navy should help cover these costs. These costs include items such as utility connection charges, final cleaning charges and some small utility deposits. Presently, this payment is based on two months BAQ. However, the cost of these items is essentially the same for all members regardless of rank or dependent status. In some cases, they may even be less for senior members who do not have to pay large utility deposits. This benefit should be based on an

average cost and paid at the same rate to all members who will not occupy government quarters.

## **7. Dental and Medical**

The dental system in the Navy currently serves it's original function. It provides services to active duty members while providing an emergency or space available service to other eligible individuals. Any additional services required by non-active duty members must be sought outside the Navy dental system and therefore helps keep operating costs at an acceptable level.

On the other hand, the medical system has provided care for everyone at a phenomenal cost to the Navy. A complete evaluation and restructuring of the military medical system is required even as the U.S. struggles with studies of its health care system. This would be a great follow on study or series of studies.

## **B. SUMMARY**

According to the recommendations described above, the basic policies and desired force structure of the Navy must be evaluated and established before a meaningful change in the compensation structure can be achieved. Because the compensation system has changed incrementally throughout the years, with little concern for the basic policies, the present compensation system does not enforce the desired affects. A major change in the compensation system is required to realign the system with present day policies. This may both increase and decrease the benefits received by members, particularly those who have dependents. Although this is a concern, the present system favors those individuals without

returning any significant benefit to the Navy. These proposed changes merely remove this favoritism, align the compensation structure with desired goals and policies, and return some equity to all individuals.

## APPENDIX

SVC	LOCATION	RANK	BAQ STAT*	# OF MEMBERS	BAQ \$	BAQ #	VHA \$	VHA #
N	CONUS	E01	1	1455	\$331,755.00	1118	\$106,502.00	881
N	CONUS	E01	2	34	\$6,332.00	34	\$2,182.00	29
N	CONUS	E01	3	19047	\$126,343.00	18432	\$2,158.00	44
N	CONUS	E01	4	13	\$4,096.00	13	\$297.00	4
N	CONUS	E01	5	55	\$2,079.00	14	\$328.00	8
N	CONUS	E01	6	2378	\$72,822.00	558	\$0.00	0
N	CONUS	E02	1	4548	\$1,402,067.00	4423	\$495,972.00	3448
N	CONUS	E02	2	752	\$154,326.00	752	\$65,212.00	708
N	CONUS	E02	3	27097	\$227,386.00	26719	\$14,099.00	211
N	CONUS	E02	4	120	\$38,232.00	120	\$366.00	7
N	CONUS	E02	5	643	\$12,604.00	82	\$4,291.00	53
N	CONUS	E02	6	1213	\$115,627.00	958	\$78.00	2
N	CONUS	E03	1	11147	\$3,695,618.00	11057	\$1,321,664.00	9304
N	CONUS	E03	2	3722	\$924,851.00	3722	\$354,902.00	3461
N	CONUS	E03	3	28595	\$295,116.00	28430	\$23,340.00	354
N	CONUS	E03	4	393	\$131,090.00	393	\$1,567.00	21
N	CONUS	E03	5	2127	\$25,907.00	159	\$9,124.00	114
N	CONUS	E03	6	1574	\$92,512.00	1015	\$1,328.00	17
N	CONUS	E04	1	27018	\$9,708,885.00	26923	\$3,838,148.00	23984
N	CONUS	E04	2	7104	\$1,791,160.00	7104	\$723,168.00	6576
N	CONUS	E04	3	25638	\$348,319.00	25533	\$49,289.00	655
N	CONUS	E04	4	428	\$153,565.00	428	\$865.00	17
N	CONUS	E04	5	7276	\$70,303.00	389	\$25,368.00	285
N	CONUS	E04	6	1411	\$90,707.00	840	\$1,744.00	23
N	CONUS	E05	1	41497	\$17,173,779.00	41456	\$6,774,446.00	38400
N	CONUS	E05	2	8912	\$2,658,496.00	8911	\$1,096,540.00	8500
N	CONUS	E05	3	10130	\$213,424.00	10101	\$37,031.00	476
N	CONUS	E05	4	281	\$116,127.00	281	\$789.00	13
N	CONUS	E05	5	12615	\$113,360.00	579	\$43,582.00	440
N	CONUS	E05	6	1138	\$82,599.00	655	\$2,465.00	21
N	CONUS	E06	1	41665	\$19,195,357.00	41647	\$8,011,912.00	39353
N	CONUS	E06	2	5091	\$1,700,057.00	5090	\$697,617.00	4906
N	CONUS	E06	3	2934	\$81,333.00	2931	\$18,290.00	189
N	CONUS	E06	4	115	\$52,992.00	115	\$126.00	3
N	CONUS	E06	5	10071	\$110,081.00	509	\$44,642.00	374
N	CONUS	E06	6	648	\$68,774.00	469	\$540.00	5
N	CONUS	E07	1	19040	\$9,496,980.00	19033	\$4,215,104.00	18220
N	CONUS	E07	2	2173	\$807,726.00	2173	\$352,539.00	2107
N	CONUS	E07	3	300	\$13,817.00	300	\$3,537.00	38
N	CONUS	E07	4	9	\$4,500.00	9	\$0.00	0
N	CONUS	E07	5	3738	\$42,738.00	183	\$17,765.00	139
N	CONUS	E07	6	148	\$16,896.00	109	\$540.00	2
N	CONUS	E08	1	6095	\$3,275,055.00	6095	\$1,355,995.00	5866
N	CONUS	E08	2	541	\$233,565.00	541	\$100,272.00	532
N	CONUS	E08	3	58	\$4,100.00	58	\$1,151.00	10
N	CONUS	E08	4	1	\$539.00	1	\$0.00	0
N	CONUS	E08	5	791	\$9,196.00	43	\$3,479.00	28
N	CONUS	E08	6	25	\$2,653.00	20	\$0.00	0
N	CONUS	E09	1	2907	\$1,694,260.00	2907	\$668,095.00	2807

Table 1 RAW DATA

SVC	LOCATION	RANK	BAQ STAT*	# OF MEMBERS	BAQ \$	BAQ #	VHA \$	VHA #
N	CONUS	E09	2	184	\$87,764.00	184	\$36,055.00	179
N	CONUS	E09	3	17	\$1,124.00	17	\$562.00	2
N	CONUS	E09	4	1	\$584.00	1	\$0.00	0
N	CONUS	E09	5	250	\$2,958.00	11	\$1,088.00	7
N	CONUS	E09	6	11	\$1,128.00	8	\$0.00	0
N	CONUS	E09M	5	1	\$0.00	0	\$0.00	0
N	CONUS	O00	3	8	\$80.00	8	\$0.00	0
N	CONUS	O01	1	854	\$363,791.00	854	\$152,480.00	794
N	CONUS	O01	2	2917	\$912,447.00	2917	\$361,112.00	2561
N	CONUS	O01	3	643	\$58,366.00	641	\$13,856.00	182
N	CONUS	O01	5	144	\$3,153.00	15	\$687.00	8
N	CONUS	O01	6	89	\$114.00	1	\$69.00	1
N	CONUS	O01E	1	780	\$383,019.00	780	\$175,951.00	752
N	CONUS	O01E	2	186	\$69,892.00	186	\$27,635.00	164
N	CONUS	O01E	3	41	\$4,379.00	41	\$1,087.00	17
N	CONUS	O01E	4	1	\$510.00	1	\$5.00	1
N	CONUS	O01E	5	204	\$1,921.00	10	\$834.00	8
N	CONUS	O01E	6	52	\$2,330.00	11	\$986.00	8
N	CONUS	O02	1	1742	\$841,682.00	1742	\$331,227.00	1572
N	CONUS	O02	2	2916	\$1,104,058.00	2916	\$424,737.00	2479
N	CONUS	O02	3	148	\$13,261.00	144	\$2,643.00	31
N	CONUS	O02	4	1	\$486.00	1	\$62.00	1
N	CONUS	O02	5	403	\$7,472.00	30	\$2,281.00	24
N	CONUS	O02	6	25	\$0.00	0	\$0.00	0
N	CONUS	O02E	1	760	\$414,323.00	758	\$181,915.00	735
N	CONUS	O02E	2	209	\$93,404.00	209	\$39,840.00	199
N	CONUS	O02E	3	10	\$1,309.00	10	\$154.00	2
N	CONUS	O02E	4	1	\$552.00	1	\$0.00	0
N	CONUS	O02E	5	247	\$3,668.00	17	\$1,717.00	14
N	CONUS	O02E	6	5	\$224.00	2	\$0.00	0
N	CONUS	O03	1	8195	\$4,646,742.00	8191	\$1,966,051.00	7942
N	CONUS	O03	2	5460	\$2,609,376.00	5460	\$1,165,811.00	5267
N	CONUS	O03	3	317	\$39,264.00	313	\$12,715.00	98
N	CONUS	O03	4	1	\$569.00	1	\$0.00	0
N	CONUS	O03	5	1847	\$24,796.00	106	\$9,608.00	89
N	CONUS	O03	6	40	\$554.00	5	\$25.00	1
N	CONUS	O03E	1	2562	\$1,581,144.00	2561	\$664,276.00	2482
N	CONUS	O03E	2	376	\$199,453.00	376	\$89,214.00	363
N	CONUS	O03E	3	20	\$1,940.00	19	\$465.00	6
N	CONUS	O03E	4	1	\$612.00	1	\$0.00	0
N	CONUS	O03E	5	505	\$6,438.00	26	\$2,496.00	20
N	CONUS	O03E	6	9	\$376.00	4	\$0.00	0
N	CONUS	O04	1	6939	\$4,749,450.00	6938	\$1,945,303.00	6760
N	CONUS	O04	2	1485	\$889,395.00	1485	\$399,425.00	1451
N	CONUS	O04	3	84	\$11,071.00	82	\$3,540.00	18
N	CONUS	O04	5	1161	\$16,311.00	50	\$5,783.00	46
N	CONUS	O04	6	26	\$373.00	5	\$0.00	0
N	CONUS	O05	1	5038	\$3,916,986.00	5036	\$1,619,832.00	4902
N	CONUS	O05	2	740	\$482,448.00	740	\$198,870.00	719
N	CONUS	O05	3	32	\$4,233.00	32	\$1,136.00	7
N	CONUS	O05	5	527	\$11,385.00	31	\$3,920.00	21

Table 1 RAW DATA

SVC	LOCATION	RANK	BAQ STAT*	# OF MEMBERS	BAQ \$	BAQ #	VHA \$	VHA #
N	CONUS	O05	6	13	\$540.00	4	\$0.00	0
N	CONUS	O06	1	2398	\$1,939,395.00	2398	\$835,413.00	2329
N	CONUS	O06	2	235	\$159,247.00	235	\$71,216.00	227
N	CONUS	O06	3	8	\$1,020.00	8	\$409.00	4
N	CONUS	O06	5	445	\$10,316.00	24	\$3,268.00	21
N	CONUS	O06	6	15	\$420.00	3	\$0.00	0
N	CONUS	O07	1	58	\$51,163.00	58	\$21,455.00	56
N	CONUS	O07	3	2	\$476.00	2	\$161.00	1
N	CONUS	O07	5	38	\$480.00	2	\$11.00	1
N	CONUS	O08	1	35	\$31,465.00	35	\$11,761.00	33
N	CONUS	O08	2	3	\$2,193.00	3	\$879.00	3
N	CONUS	O08	5	28	\$0.00	0	\$0.00	0
N	CONUS	O09	1	6	\$5,394.00	6	\$1,972.00	5
N	CONUS	O09	5	15	\$330.00	1	\$0.00	0
N	CONUS	O09	6	1	\$169.00	1	\$0.00	0
N	CONUS	O10	1	1	\$899.00	1	\$397.00	1
N	CONUS	O10	5	8	\$0.00	0	\$0.00	0

\* - BAQ Status

1=W/DEP FULL 2=W/O DEP FULL 3=W/O DEP PARTIAL

4=W/ DEP PARTIAL 5=W/DEP GOV Q 6=W/O DEP GOV Q

Table 1 RAW DATA

SVC	LOCATION	Rank	BAQ STAT *	BAQ \$	BAQ #	Average BAQ(mo)	Average BAQ(yr)
N	CONUS	E01	1	\$331,755.00	1118	\$ 296.74	\$ 3,560.88
N	CONUS	E02	1	\$1,402,067.00	4423	\$ 316.99	\$ 3,803.93
N	CONUS	E03	1	\$3,695,618.00	11057	\$ 334.23	\$ 4,010.80
N	CONUS	E04	1	\$9,708,885.00	26923	\$ 360.62	\$ 4,327.40
N	CONUS	E05	1	\$17,173,779.00	41456	\$ 414.27	\$ 4,971.18
N	CONUS	E06	1	\$19,195,357.00	41647	\$ 460.91	\$ 5,530.87
N	CONUS	E07	1	\$9,496,980.00	19033	\$ 498.97	\$ 5,987.69
N	CONUS	E08	1	\$3,275,055.00	6095	\$ 537.33	\$ 6,448.02
N	CONUS	E09	1	\$1,694,260.00	2907	\$ 582.82	\$ 6,993.85
N	CONUS	O01	1	\$363,791.00	854	\$ 425.98	\$ 5,111.82
N	CONUS	O01E	1	\$383,019.00	780	\$ 491.05	\$ 5,892.60
N	CONUS	O02	1	\$841,682.00	1742	\$ 483.17	\$ 5,798.04
N	CONUS	O02E	1	\$414,323.00	758	\$ 546.60	\$ 6,559.20
N	CONUS	O03	1	\$4,646,742.00	8191	\$ 567.30	\$ 6,807.58
N	CONUS	O03E	1	\$1,561,144.00	2561	\$ 609.58	\$ 7,315.01
N	CONUS	O04	1	\$4,749,450.00	6938	\$ 684.56	\$ 8,214.67
N	CONUS	O05	1	\$3,916,986.00	5036	\$ 777.80	\$ 9,333.56
N	CONUS	O06	1	\$1,939,395.00	2398	\$ 808.76	\$ 9,705.06
N	CONUS	O07	1	\$51,163.00	58	\$ 882.12	\$ 10,585.45
N	CONUS	O08	1	\$31,465.00	35	\$ 899.00	\$ 10,788.00
N	CONUS	O09	1	\$5,394.00	6	\$ 899.00	\$ 10,788.00
N	CONUS	O10	1	\$899.00	1	\$ 899.00	\$ 10,788.00

\* BAQ Status

1=Full BAQ W/Dependents

Table 2 BAQ With Dependents

SVC	LOCATION	PG	BAQ STAT *	BAQ \$	BAQ #	Average BAQ (mo)	Average BAQ (yr)
N	CONUS	E01	2	\$6,332.00	34	\$ 186.24	\$ 2,234.82
N	CONUS	E02	2	\$154,326.00	752	\$ 205.22	\$ 2,462.65
N	CONUS	E03	2	\$924,851.00	3722	\$ 248.48	\$ 2,981.79
N	CONUS	E04	2	\$1,791,160.00	7104	\$ 252.13	\$ 3,025.61
N	CONUS	E05	2	\$2,658,496.00	8911	\$ 298.34	\$ 3,580.06
N	CONUS	E06	2	\$1,700,057.00	5090	\$ 334.00	\$ 4,007.99
N	CONUS	E07	2	\$807,726.00	2173	\$ 371.71	\$ 4,460.52
N	CONUS	E08	2	\$233,565.00	541	\$ 431.73	\$ 5,180.74
N	CONUS	E09	2	\$87,764.00	184	\$ 476.98	\$ 5,723.74
N	CONUS	O01	2	\$912,447.00	2917	\$ 312.80	\$ 3,753.64
N	CONUS	O01E	2	\$69,892.00	186	\$ 375.76	\$ 4,509.16
N	CONUS	O02	2	\$1,104,058.00	2916	\$ 378.62	\$ 4,543.45
N	CONUS	O02E	2	\$93,404.00	209	\$ 446.91	\$ 5,362.91
N	CONUS	O03	2	\$2,609,376.00	5460	\$ 477.91	\$ 5,734.89
N	CONUS	O03E	2	\$199,453.00	376	\$ 530.46	\$ 6,365.52
N	CONUS	O04	2	\$889,395.00	1485	\$ 598.92	\$ 7,187.03
N	CONUS	O05	2	\$482,448.00	740	\$ 651.96	\$ 7,823.48
N	CONUS	O06	2	\$159,247.00	235	\$ 677.65	\$ 8,131.76
N	CONUS	O08	2	\$2,193.00	3	\$ 731.00	\$ 8,772.00

\* BAQ Status

2=Full BAQ W/O Dependents

**Table 3 BAQ Without Dependents**

SVC	LOCATION	PG	BAQ STAT*	VHA \$	VHA #	Average VHA (mo)	Average VHA (yr)
N	CONUS	E01	1	\$106,502.00	881	\$ 120.89	\$ 1,450.65
N	CONUS	E02	1	\$495,972.00	3448	\$ 143.84	\$ 1,726.12
N	CONUS	E03	1	\$1,321,664.00	9304	\$ 142.05	\$ 1,704.64
N	CONUS	E04	1	\$3,838,148.00	23984	\$ 160.03	\$ 1,920.35
N	CONUS	E05	1	\$6,774,446.00	38400	\$ 176.42	\$ 2,117.01
N	CONUS	E06	1	\$8,011,912.00	39353	\$ 203.59	\$ 2,443.09
N	CONUS	E07	1	\$4,215,104.00	18220	\$ 231.34	\$ 2,776.14
N	CONUS	E08	1	\$1,355,995.00	5866	\$ 231.16	\$ 2,773.94
N	CONUS	E09	1	\$668,095.00	2807	\$ 238.01	\$ 2,856.12
N	CONUS	O01	1	\$152,480.00	794	\$ 192.04	\$ 2,304.48
N	CONUS	O01E	1	\$175,951.00	752	\$ 233.98	\$ 2,807.73
N	CONUS	O02	1	\$331,227.00	1572	\$ 210.70	\$ 2,528.45
N	CONUS	O02E	1	\$181,915.00	735	\$ 247.50	\$ 2,970.04
N	CONUS	O03	1	\$1,966,051.00	7942	\$ 247.55	\$ 2,970.61
N	CONUS	O03E	1	\$664,276.00	2482	\$ 267.64	\$ 3,211.65
N	CONUS	O04	1	\$1,945,303.00	6760	\$ 287.77	\$ 3,453.20
N	CONUS	O05	1	\$1,619,832.00	4902	\$ 330.44	\$ 3,965.32
N	CONUS	O06	1	\$835,413.00	2329	\$ 358.70	\$ 4,304.40
N	CONUS	O07	1	\$21,455.00	56	\$ 383.13	\$ 4,597.50
N	CONUS	O08	1	\$11,761.00	33	\$ 356.39	\$ 4,276.73
N	CONUS	O09	1	\$1,972.00	5	\$ 394.40	\$ 4,732.80
N	CONUS	O10	1	\$397.00	1	\$ 397.00	\$ 4,764.00

\* BAQ Status

1=Full BAQ W/Dependents

Table 4 VHA With Dependents

SVC	LOCATION	PG	BAQ STAT *	VHA \$	VHA #	Average VHA (mo)	Average VHA (yr)
N	CONUS	E01	2	\$2,182.00	29	\$ 75.24	\$ 902.90
N	CONUS	E02	2	\$65,212.00	708	\$ 92.11	\$ 1,105.29
N	CONUS	E03	2	\$354,902.00	3461	\$ 102.54	\$ 1,230.52
N	CONUS	E04	2	\$723,168.00	6576	\$ 109.97	\$ 1,319.65
N	CONUS	E05	2	\$1,096,540.00	8500	\$ 129.00	\$ 1,548.06
N	CONUS	E06	2	\$697,617.00	4906	\$ 142.20	\$ 1,706.36
N	CONUS	E07	2	\$352,539.00	2107	\$ 167.32	\$ 2,007.82
N	CONUS	E08	2	\$100,272.00	532	\$ 188.48	\$ 2,261.77
N	CONUS	E09	2	\$36,055.00	179	\$ 201.42	\$ 2,417.09
N	CONUS	O01	2	\$361,112.00	2561	\$ 141.00	\$ 1,692.05
N	CONUS	O01E	2	\$27,635.00	164	\$ 168.51	\$ 2,022.07
N	CONUS	O02	2	\$424,737.00	2479	\$ 171.33	\$ 2,056.01
N	CONUS	O02E	2	\$39,840.00	199	\$ 200.20	\$ 2,402.41
N	CONUS	O03	2	\$1,165,811.00	5267	\$ 221.34	\$ 2,656.11
N	CONUS	O03E	2	\$89,214.00	363	\$ 245.77	\$ 2,949.22
N	CONUS	O04	2	\$399,425.00	1451	\$ 275.28	\$ 3,303.31
N	CONUS	O05	2	\$198,870.00	719	\$ 276.59	\$ 3,319.11
N	CONUS	O06	2	\$71,216.00	227	\$ 313.73	\$ 3,764.72
N	CONUS	O08	2	\$879.00	3	\$ 293.00	\$ 3,516.00

\* BAQ Status

2=Full BAQ W/O Dependents

Table 5 VHA Without Dependents

	Cost Drivers									
	Dental (year)		Medical (year)		FSA-II (mo)		Travel & Per Diem		BAQ (mo)	
	Single	Dependent	Single	Dependent	Single	Dependent	Single	Dependent	Single	Dependent
O-10	\$320	\$320	\$1,970	\$1,970	\$0	\$0	\$419	\$400	\$730	\$899
O-9	\$320	\$320	\$1,970	\$1,970	\$0	\$2	\$419	\$400	\$730	\$899
O-8	\$320	\$320	\$1,970	\$1,970	\$0	\$1	\$419	\$400	\$731	\$899
O-7	\$320	\$320	\$1,970	\$1,970	\$0	\$2	\$419	\$400	\$730	\$882
O-6	\$320	\$320	\$1,970	\$1,970	\$0	\$2	\$419	\$400	\$678	\$809
O-5	\$320	\$320	\$1,970	\$1,970	\$0	\$4	\$419	\$400	\$652	\$778
O-4	\$320	\$320	\$1,970	\$1,970	\$0	\$5	\$419	\$400	\$599	\$685
O-3	\$320	\$320	\$1,970	\$1,970	\$0	\$6	\$419	\$400	\$478	\$567
O-2	\$320	\$320	\$1,970	\$1,970	\$0	\$11	\$419	\$400	\$379	\$483
O-1	\$320	\$320	\$1,970	\$1,970	\$0	\$5	\$419	\$400	\$313	\$426
E-9	\$320	\$320	\$1,970	\$1,970	\$0	\$6	\$419	\$400	\$477	\$583
E-8	\$320	\$320	\$1,970	\$1,970	\$0	\$7	\$419	\$400	\$432	\$537
E-7	\$320	\$320	\$1,970	\$1,970	\$0	\$8	\$419	\$400	\$372	\$499
E-6	\$320	\$320	\$1,970	\$1,970	\$0	\$9	\$419	\$400	\$334	\$481
E-5	\$320	\$320	\$1,970	\$1,970	\$0	\$9	\$419	\$400	\$298	\$414
E-4	\$320	\$320	\$1,970	\$1,970	\$0	\$11	\$419	\$400	\$252	\$361
E-3	\$320	\$320	\$1,970	\$1,970	\$0	\$13	\$419	\$400	\$248	\$334
E-2	\$320	\$320	\$1,970	\$1,970	\$0	\$14	\$419	\$400	\$205	\$317
E-1	\$320	\$320	\$1,970	\$1,970	\$0	\$21	\$419	\$400	\$186	\$297

	Cost Drivers								Difference	
	VHA (mo)		DLA (yr)		Child Care (year)		Total (year)			
	Single	Dependent	Single	Dependent	Single	Dependent	Single	Dependent		
O-10	\$300	\$397	\$752	\$960	\$0	\$284	\$15,820	\$26,614	\$10,793	
O-9	\$300	\$394	\$752	\$960	\$0	\$284	\$15,820	\$26,605	\$10,785	
O-8	\$293	\$356	\$752	\$960	\$0	\$284	\$15,748	\$26,140	\$10,391	
O-7	\$300	\$383	\$752	\$960	\$0	\$284	\$15,820	\$26,274	\$10,454	
O-6	\$314	\$359	\$752	\$960	\$0	\$284	\$15,357	\$25,095	\$9,738	
O-5	\$277	\$330	\$752	\$960	\$0	\$284	\$14,603	\$24,405	\$9,803	
O-4	\$275	\$288	\$752	\$960	\$0	\$284	\$13,951	\$22,787	\$8,836	
O-3	\$221	\$248	\$752	\$960	\$0	\$284	\$11,851	\$20,918	\$9,066	
O-2	\$171	\$211	\$752	\$960	\$0	\$284	\$10,060	\$19,514	\$9,455	
O-1	\$141	\$192	\$752	\$960	\$0	\$284	\$8,906	\$18,542	\$9,636	
E-9	\$201	\$238	\$752	\$960	\$0	\$284	\$11,601	\$20,981	\$9,380	
E-8	\$188	\$231	\$752	\$960	\$0	\$284	\$10,903	\$20,366	\$9,463	
E-7	\$167	\$231	\$752	\$960	\$0	\$284	\$9,929	\$19,917	\$9,988	
E-6	\$142	\$204	\$752	\$960	\$0	\$284	\$9,175	\$19,139	\$9,964	
E-5	\$129	\$176	\$752	\$960	\$0	\$284	\$8,589	\$18,255	\$9,666	
E-4	\$110	\$160	\$752	\$960	\$0	\$284	\$7,806	\$17,442	\$9,636	
E-3	\$103	\$142	\$752	\$960	\$0	\$284	\$7,673	\$16,931	\$9,258	
E-2	\$92	\$144	\$752	\$960	\$0	\$284	\$7,028	\$16,763	\$9,735	
E-1	\$75	\$121	\$752	\$960	\$0	\$284	\$6,598	\$16,330	\$9,732	

Table 6 Single vs. Married 2 Dependents

## LIST OF REFERENCES

Bower, M., LCDR USN, (1995), *Navy Exchange*, Unpublished Manuscript, Naval Post Graduate School, Monterey, Ca.

Brantner, T. M. & Morrison, R. F., (1992) What Enhances or Inhibits Learning a new Job? A Basic Career Issue. *Journal of Applied Psychology*. 77, 926-940.

Bruce, R. A., & Burch, R. L. (1989). *Officer Career Development: Modeling Married Aviator Retention* (NPRDC TR-89-11) San Diego, CA: Navy Personnel Research and Development Center.

Burch, R. L., Sheposh, J. P., Morrison, R. F. (1991). *Officer Career Development: Surface Warfare Officer Retention*. (NPRDC TR-91-5) San Diego, CA: Navy Personnel Research and Development Center.

Bureau of Medicine & Surgery, Plans, Analysis & Evaluation (BUMED-822), (1995), *A.W.A.R.E. System Data Fields*.

Department of Defense, Office of the Secretary of Defense, (1991) *Military Compensation Background Papers, Compensation Elements and Related Manpower Cost Items, Their Purposes and Legislative Backgrounds*, Fourth edition, United States Government printing Office.

Department of Defense, Office of the Assistant Secretary of Defense (Force Management and Personnel), (1992), Compensation Structure, Major Topical Summary 1, *Quadrennial Review of Military Compensation*.

Department of Defense, Office of the Assistant Secretary of Defense (Force Management and Personnel), (1992), Compensation Structure, Major Topical Summary 3, *Quadrennial Review of Military Compensation*.

Department of Defense, Office of the Assistant Secretary of Defense (Personnel and Readiness), (1993), *Family Status and Initial Term of Service*, Vol. I - Summary, Washington Headquarters Services.

Department of Defense, Office of the Assistant Secretary of Defense (Personnel and Readiness), (1993), *Family Status and Initial Term of Service*, Vol. II - Trends and Indicators, Washington Headquarters Services.

Department of Defense, Office of the Assistant Secretary of Defense (Personnel and Readiness), (1993), *Family Status and Initial Term of Service*, Vol. III - Field Study, Washington Headquarters Services.

Department of Defense, Office of the Assistant Secretary of Defense (Personnel and Readiness), (1993), *Family Status and Initial Term of Service*, Vol. IV - Appendices, Washington Headquarters Services.

Ford, M., Gyll, S. P., Kantor, J., Wilcove, G., (1995), *Navy-wide Personnel Survey 1994: Statistical Tables for Enlisted Personnel*. (NPRDC TN-95-2) San Diego, CA: Navy Personnel Research and Development Center.

Ford, M., Gyll, S. P., Kantor, J., Wilcove, G., (1995), *Navy-wide Personnel Survey 1994: Statistical Tables for Officers*. (NPRDC TN-95-2) San Diego, CA: Navy Personnel Research and Development Center.

Holzbach, R. L., Mohr, D. A., & Morrison, R. F., (1981), *Surface Warfare Junior Officer Retention: Spouses' Influence on Career Decisions*. (NPRDC TR-81-17) San Diego, CA: Navy Personnel Research and Development Center.

Kobi, J., CDR. USN, (1995), Why You Want to Be a Navy Exchange Officer. *Supply Officer Newsletter*. July/August 14-15.

Korenman, S., & Neumark, D., (1991), Does Marriage Really Make Men More Productive? *Journal of Human Resources* 26.

Maze, R., & Pexton, P., (1995), A Gap in Military Pay. *Air Force Times, The Independent Weekly*. May 29, 1995.

Maze, R., & Pexton, P., (1995), Are single people second-class sailors? *Navy Times, The Independent Weekly*. May 22, 1995.

Murphy, K. R., (1989). *Structural Models of Warfare Officer Retention*. Unpublished manuscript, Colorado State University, Fort Collins, CO.



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